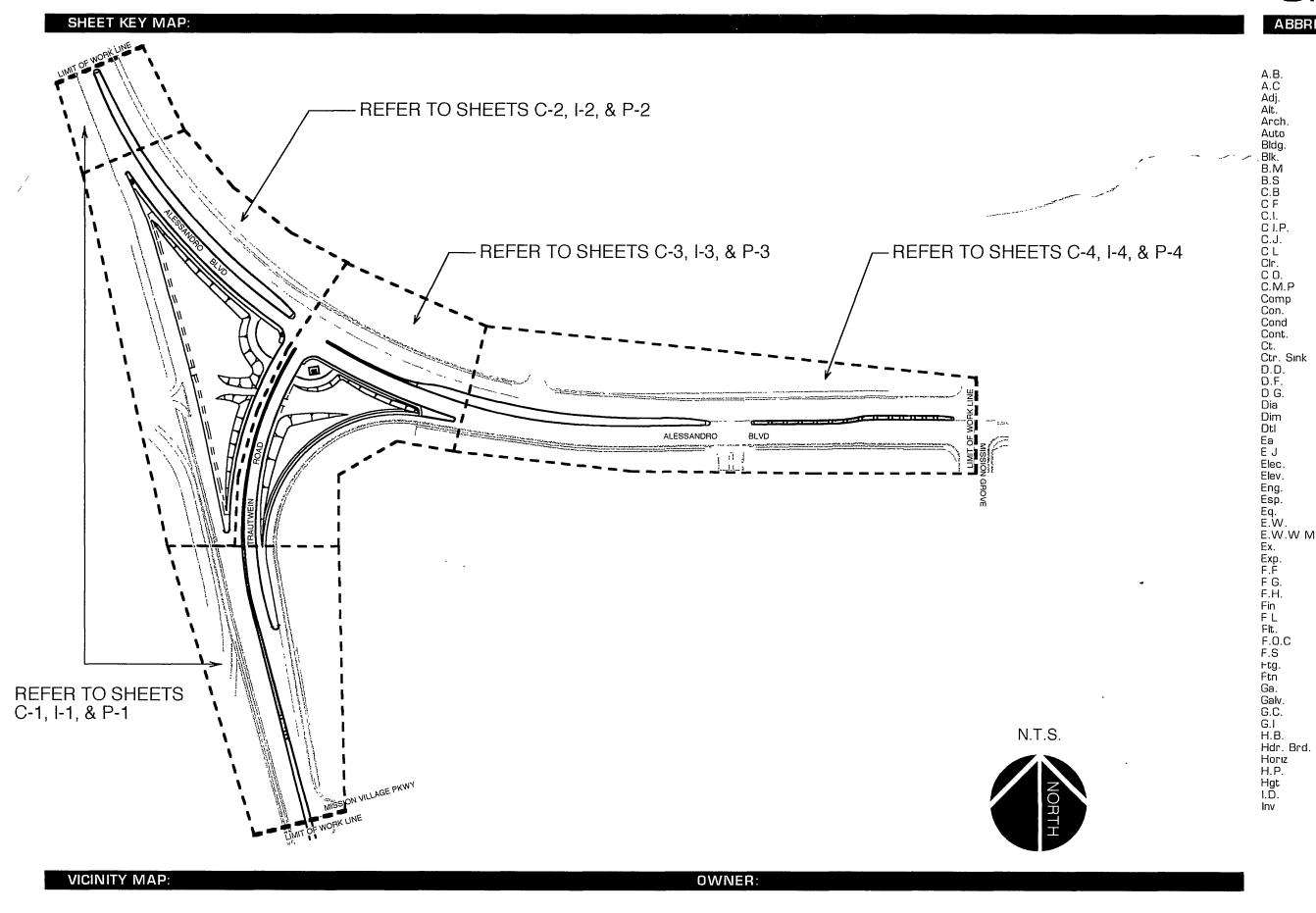


LANDSCAPE ARCHITECTURAL CONSTRUCTION DOCUMENTS

ALESSANDRO BLVD. & TRAUTWEIN RD. MEDIAN ISLANDS

City of Riverside, California



Junction Box Landscape Architect Low Point Machine Bolt Multi-branched Not in Contract Center Line Clearance Clean Out Planting Area Corrugated Metal Pig Point of Connection Pounds Per Square Counter Sink Deck Drain Decomposed Granite Expansion Joint Electric Schedule Elevation Sheet Metal Each Way Electric Welded Wire Mesl Existing Specifications Finish Floor Elevation Finish Grade Top of Area Drain Fire Hydrant Top and Bottom Flow Line Top of Grate Finish Surface Top of Poll Couping Ground Cove Galvanized Iron Hose Bib Header Board Horizontal High Point

TITLE SHEET CONSTRUCTION PLAN CONSTRUCTION PLAN **CONSTRUCTION PLAN CONSTRUCTION PLAN** CONSTRUCTION DETAILS **IRRIGATION PLAN IRRIGATION PLAN IRRIGATION PLAN IRRIGATION PLAN IRRIGATION DETAILS** PLANTING PLAN P-2 PLANTING PLAN PLANTING PLAN PLANTING PLAN PLANTING DETAILS CONSTRUCTION SPECIFICATIONS PLANTING & IRRIGATION SPECIFICATIONS

CLEAR SIDE CLEAR

Regional Properties 1875 Century Park East Suite 820 Century City, CA 90067 (310) 553-1776 Mr. Alex Lowy

CONSULTANTS:

ARCHITERRA DESIGN GROUP LANDSCAPE

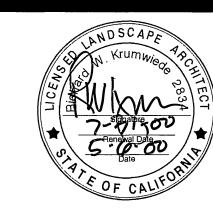
ARCHITECTURE
SITE PLANNING
10630 Town Center Dr.
Suite 128
Rancho Cucamonga
CA 91730
(909) 484-2800
Fax (909) 484-2802
Richard Krumwiede

CA Lic. #2834 AZ Lic. # 29115

NV Lic. # 446 TX Lic. # 1884

Expiration Date 3/27/01

City of Riverside BusinessTax Certificate ID 101246



THE LICENSED LANDSCAPE ARCHITECT SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE WORK HEREON. IN THE EVENT OF DISCREPANCIES ARISING DURING CONSTRUCTION, THE LICENSED LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY.

Inside Diameter

CITY OF RIVERSIDE PUBLIC UTILITIES DEPARTMENT
ELECTRIC OVERHEAD AND UNDERGROUND

APPROVED FOR ELECTRICAL SERVICE TO IRRIGATION
CONTROLLER AT LOCATION SHOWN

APPR. DATE

APPROVED BY WESTERN MU
WATER DISTRICT FOR CONS

CIVIL ENGINEER, BCE NO 462

VOID AFTER ONE YEAR FROM

:

SIGNED BY <u>J.R.G.</u> DRAWN BY <u>J.R.G.</u> CHECKED BY <u>J.A.F.</u>

APPROVED BY WESTERN MUNICIPLE
WATER DISTRICT FOR CONSTRUCTION

5/26/00

CIVILENGINEER, BCE NO 46212 APPR. DATE
VOID AFTER ONE YEAR FROM THIS DATE
:

TRAFFIC DIVISION

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY
PRINCIPAL ENGINEER
PARK DEPARTMENT

PUBLIC WORKS DIPECTOR

APPROVED BY
PRINCIPAL ENGINEER
PARK DEPARTMENT

PUBLIC WORKS DIRECTOR

P.W. ENGINEERING MGR. 6/1/00 78 DATE 6-12-2000

TITLE SHEET
ALESSANDRO BLVD. &
TRAUTWEIN RD.
MEDIAN ISLANDS

HORIZ. SCALE 1" =30'

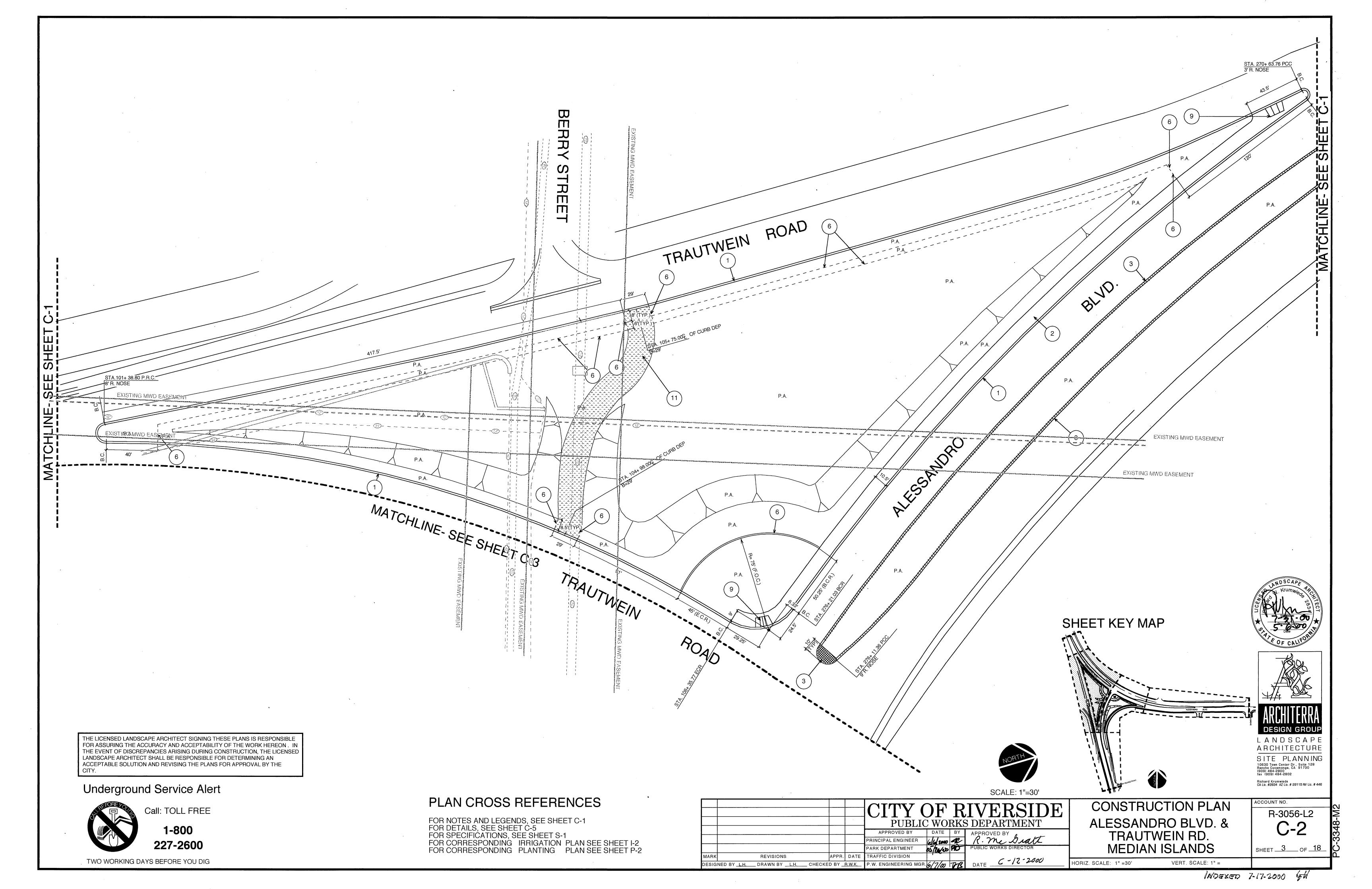
VERT SCALE: 1" =

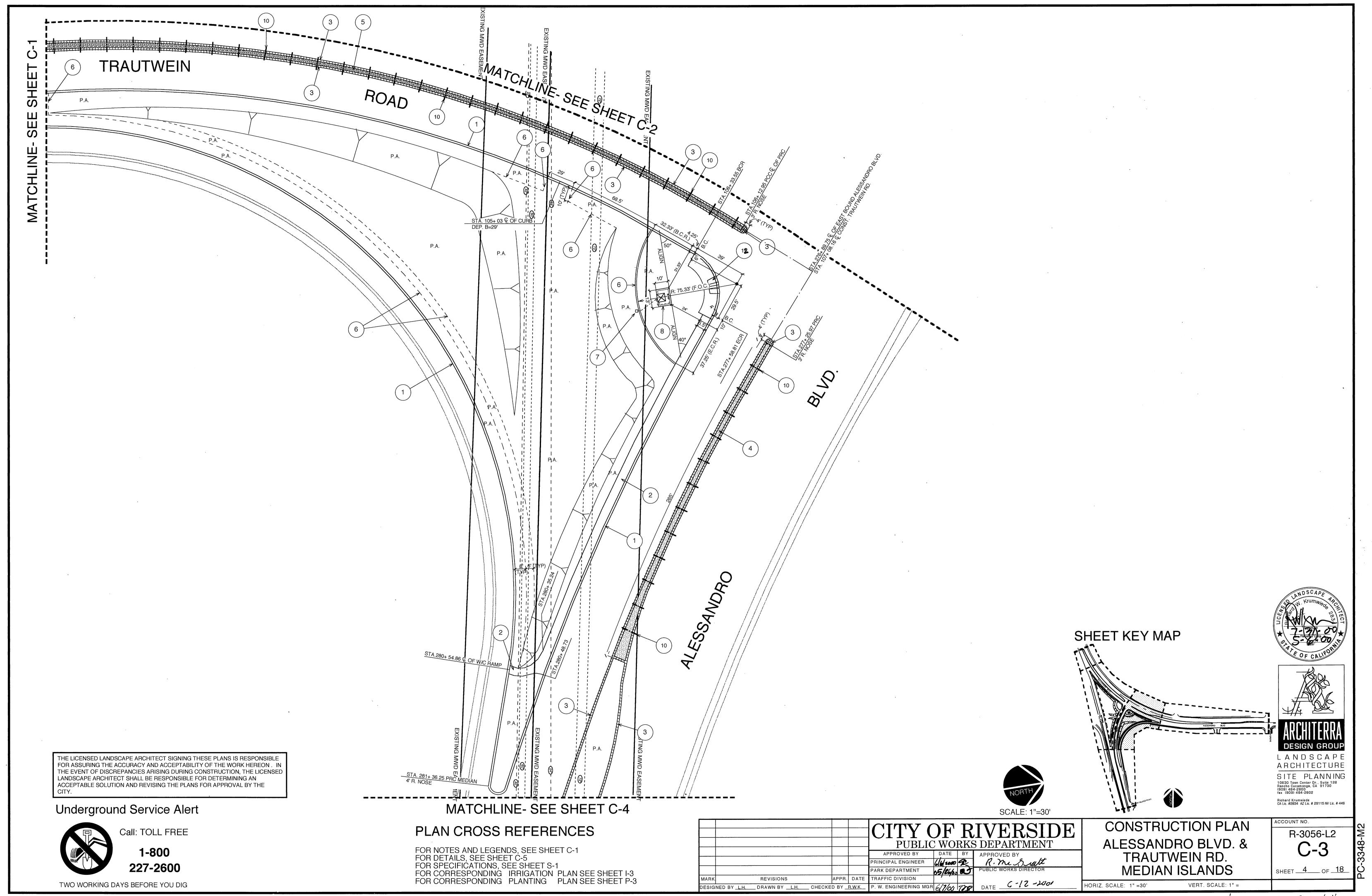
R-3056-L2
T-1

SHEET 1 OF 18

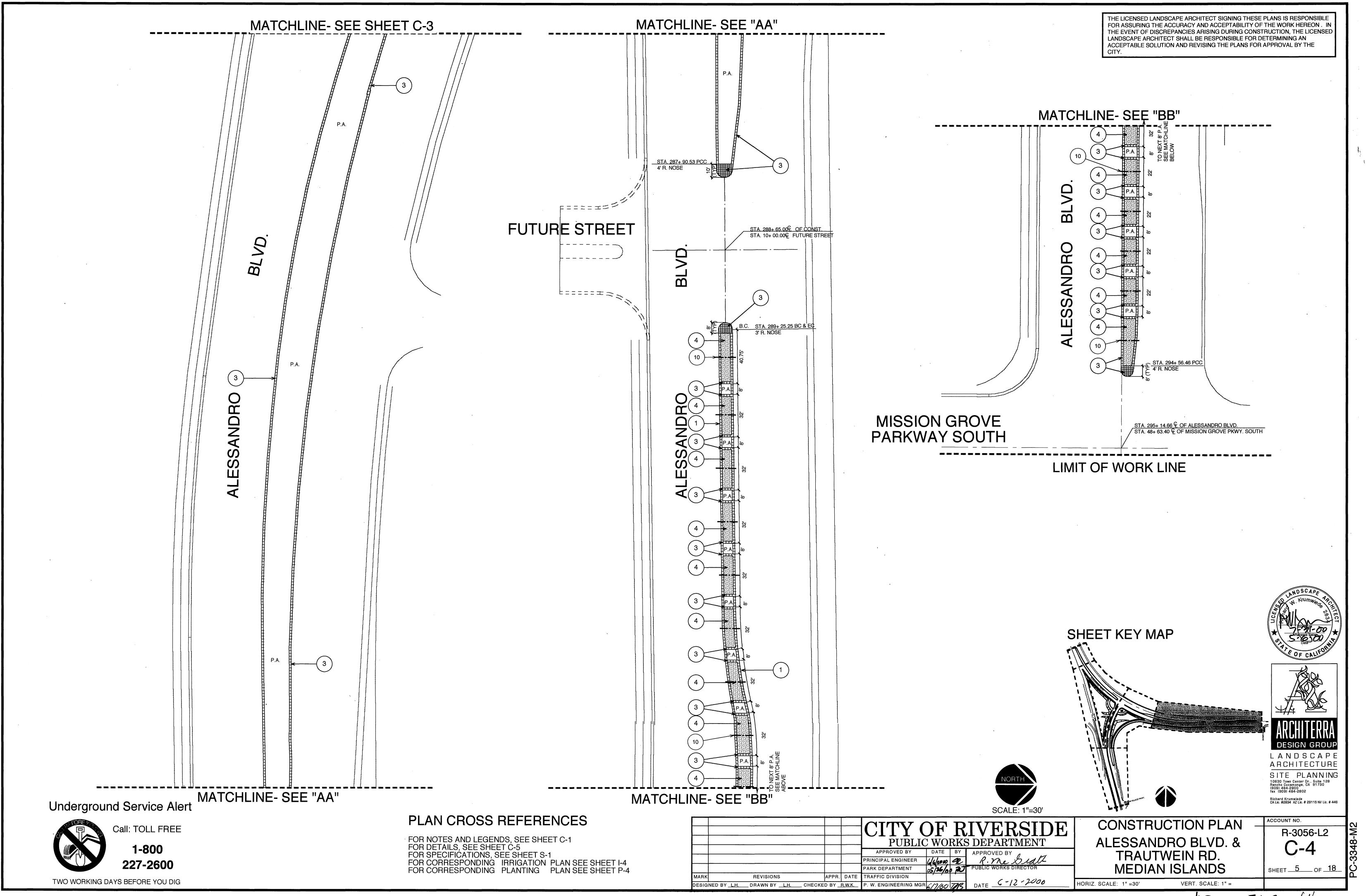
INDEXED 7-17-2000 GH PC-3348-M2

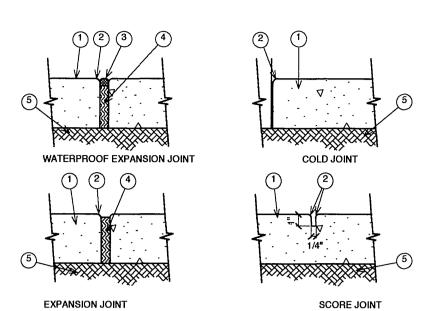
PUBLIC WORKS NOTES: CONSTRUCTION NOTES WMWD REQUIREMENTS NO PERSON SHALL PERFORM ANY CONSTRUCTION ACTIVITY OR INSTALL ANY WESTERN MUNICIPLE WATER DISTRICT INSPECTOR TO APPROVE OBJECTS WITHIN THE PUBLIC RIGHTS-OF-WAY OR EASEMENTS OF THE CITY OF CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHENIS' LOCATION OF ALL LANDSCAPING AT TIME OF INSTALLATION WITHIN RIVERSIDE WITHOUT A VALID CONSTRUCTION PERMIT OR, A STREET OPENING OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MANOT HAVE WMWD EASEMENT PERMIT OR AN ENCROACHMENT PERMIT ISSUED BY THE CITY'S PUBLIC WORKS BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL ANY DAMAGE CAUSED BY WMWD TO LANDSCAPE (MOW STRIPS, NECESSARY REVISIONS DUE TO A FAILURE TO GIVE SUCH NOTIFICATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR THE RIGHT OF SPRINKLER SYSTEMS OR VEGETAION) DURING SYSTEM MAINTENANCE WAY IN ACCORDANCE WITH THE PROVISIONS OF LAW AS IT AFFECTS EACH OR REPAIRS SHALL BE REPLACED BY OWNER AT OWNERS EXPENSE. UTILITY INCLUDING IRRIGATION LINES AND APURTENANCES AND AT NO COST TO CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES, AND STRUCTURES. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR COST INCURRED DUE TO DAMAGE AND REPLACEMENT OF SAID UTILITIES. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RIVERSIDE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER SUB-DEPARTMENT OF PUBLIC WORKS, STANDARD DRAWINGS, ITS SUPPLEMENTAL CONTRACTORS AS REQUIRED TO ACCOMPLISH CONSTRUCTION OPERATIONS. NOTES AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CURRENT EDITION. SEE GRADING PLANS FOR VERTICAL CONTROL. THE LICENSED LANDSCAPE ARCHITECT SIGNING THESE PLANS IS RESPONSIBLE CONTRACTOR SHALL COORDINATE IRRIGATION SLEEVE LOCATIONS UNDER PAVED AREAS AS REQUIRED. REFER TO IRRIGATION PLANS. FOR ASSURING THE ACCURACY AND ACCEPTABLILITY OF THE WORK HEREON. IN THE EVENT OF DISCREPANCIES ARISING DURING CONSTRUCTION, THE LICENSED LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR DETERMINING AN PRIOR TO PLACING CONCRETE, THE CONTRACTOR SHALL SUFFICIENTLY COMPACT THSUBGRADE ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY. AND PROVIDE SUBSURFACE PREPARATION PER SPECIFICATIONS. CONCRETE SURFACES SHALL BE FORMED WITH LONG, SMOOTH GRADIENTS TO REDUCDIPS, QUANTITIES SHOWN ARE FOR INFORMATION ONLY AND THE CITY OF RIVERSIDE IS ABRUPT CHANGES, AND SHARP TRANSITIONS. NOT RESPONSIBILE FOR THEIR ACCURACY. ALL CURVILINEAR WALKS, CURBS, HEADERBOARDS, AND WALLS SHALL HAVE A CONTINUOUS THE DEVELOPER SHALL BE RESPONSIBLE FOR PRESERVING OR RE-SMOOTH CURVE WHERE APPLICABLE. ALL FORMS MUST BE INSPECTED AND APPROVED PRIOR TO ESTABLISHING AND REFERENCING SURVEY MONUMENTS DESTROYED, BEGINNING THAT PHASE OF WORK. DISTURBED OR BURIED AS A RESULT OF CONSTRUCTION SHOWN HEREON. IF IN THE FIELD, SCALED DIMENSIONS CONFLICT WITH STATED GRADES AND/OR ELEVATION, SEE THE CONTRACTOR SHALL CALL IN A LOCATION REQUEST TO UNDERGROUND DESIGN ELEVATION SHALL TAKE PRECEDENCE. SERVICE ALERT (USA). PHONE #1-800-227-2600 TWO WORKING DAYS BEFORE DIGGING. NO CONSTRUCTION PERMIT WILL BE ISSUED BY THE PUBLIC WORKS DEPARTMENT INVOLVING EXCAVATION FOR UNDERGROUND FACILITIES UNLESS THE APPLICANT HAS BEEN PROVIDED AN INQUIRY IDENTIFICATION NUMBER BY THE CONTRACTOR SHALL COORDINATE TRENCHING FOR CABLE TELEVISION WITH OTHER TRENCHING WITHIN THE SUBDIVISION. ANY TRAFFIC CONTROL STRIPING OBLITERATED AND/OR BADLY WORN DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR WITHIN FIVE DAYS AFTER NOTIFICATION FROM THE CITY INSPECTORS STREET IMPROVEMENT WORK THAT WILL CAUSE DAMAGE TO THE DETECTOR LOOPS SHALL NOT BE PERFORMED UNTIL TRAFFIC SIGNAL MAINTENANCE PERSONNEL HAVE BEEN NOTIFIED AND THE NECESSARY TIMING ADJUSTMENTS ARE MADE TO MAINTAIN SIGNAL OPERATION. FINAL STRIPING FOR TRAFFIC CONTROL AND/OR PAVEMENT MARKING TO BE THE RESPONSIBILITY OF THE DEVELOPER. NOTE: ALL STATION POINTS WERE TAKEN FROM J.F. DAVIDSON ASSOCIATES STREET IMPROVEMENT PLANS, DATED: 12/15/89 PLAN NO. R-3056. 为 **CONSTRUCTION LEGEND** EXISTING CONCRETE CURB EXISTING SIDEWALK. ISLAND NOSES AND MEDIAN BANDS TO BE 4" THICK SLAB ON GRADE, 3,000 PSI DESIGN MIX. BOMANITE 12"x12" TILED PATTERN STAMPED CONCRETE, OR AN APPROVED EQUAL. INTEGRAL COLOR NO. C-22, CORAL RED CHROMIX ADMIXTURE BY L.M. SCOFIELD. TEXTURE-FINE BROOM FINISH, PERPENDICULAR TO STREET. SEE DETAILS B&I, SHEET C-5. RAISED MEDIAN AREAS ALONG TRAUTWEIN ROAD TO BE 4" THICK SLAB ON GRADE, 3,000 PSI SHE DESIGN MIX. ASHLAR SLATE BOMACRON PATTERN BY BOMANITE, OR AN APPROVED EQUALL. DUST-ON COLOR NO. A-85, MUTED GREEN LITHOCHROME COLOR HARDENER BY L.M. SCOFIELD. RELEASE COLOR NO. A-57, PLATINUM GRAY BY L.M. SCOFIELD. TEXTURE- ASHLAR SLATE BOMACRON. SEE DETAIL B&H, SHEET Q-5. SEE SHEET KEY MAP RAISED MEDIAN AREAS ALONG ALESSANDRO AVENUE TO BE 4" THICK SLAB ON GRADE, 3,000 PSI DESIGN MIX. ASHLAR SLATE BOMACRON PATTERN BY BOMANITE, OR AN APPROVED EQUAL. DUST-ON COLOR NO. A-51, STEADMAN BUFF LITHOCHROME COLOR HARDENER BY L.M. SCOFIELD. RELEASE COLOR NO. A-55, PECAN TAN BY L.M. SCOFIELD. TEXTURE- ASHLAR SLATE BOMACRON. SEE DETAIL B&H, SHEET C-5. MATCHLINE CONSTRUCT CONCRETE MOWCURB. PER DETAIL Q, SHEET C-5. SEE SHEETS C-1, C-2 & C-3 FOR LOCATION. INSTALL A MEYERS ELECTRIC METERED PEDESTAL FOR MONUMENT SIGN LIGHTS. SEE DETAILS F&G, SHEET C-5. 6' PRECAST CONCRETE MONUMENT CUBE. SEE DETAILS E&G, SHEET Q-5. EXISTING HANDICAP RAMP. 1/2" THICK FULL POLYFOAM EXPANSION JOINT. SEE DETAIL H, SHEET C.5. LANDSCAPE 4" LAYER 3/4" CRUSHED GRAVEL ·ARCHITECTURE CONTRACTOR TO INSTALL WHEEL CHAIR RAMP PER CITY OF RIVERSIDE STANDARDS. SITE PLANNING Richard Krumwiede - CA Lic. #2834 AZ Lic. #29115 NV Lic. #446 SCALE: 1"=30' **Underground Service Alert** PLAN CROSS REFERENCES CONSTRUCTION PLAN COUNT NO. CITY OF RIVERSIDE Call: TOLL FREE R-3056-L2 FOR NOTES AND LEGENDS, SEE SHEET C-1 PUBLIC WORKS DEPARTMENT ALESSANDRO BLVD. & **C**-FOR DETAILS, SEE SHEET C-5 FOR SPECIFICATIONS, SEE SHEET S-1 TRAUTWEIN RD. delan & R. Me Sutt FOR CORRESPONDING IRRIGATION PLAN SEE SHEET I-1 PRINCIPAL ENGINEER 227-2600 MEDIAN ISLANDS SHEET 2 OF 18 PARK DEPARTMENT FOR CORRESPONDING PLANTING PLAN SEE SHEET P-1 TRAFFIC DIVISION DATE 6-12-2000 TWO WORKING DAYS BEFORE YOU DIG HORIZ. SCALE: 1" =30' VERT. SCALE: 1" = ESIGNED BY <u>L.H.</u> DRAWN BY <u>L.H.</u> CHECKED BY <u>R.W.K.</u> P. W. ENGINEERING MGR 6/7/81 7-8



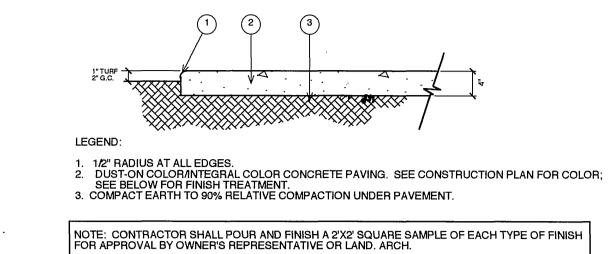


INDEXED 7-17-2000 4H





- LEGEND: CONCRETE PAVING.
- 2. 1/4" TOOLED RADIUS.
- 3. WATERPROOF SEALANT, COLOR TO MATCH PAVING. SUBMIT COLOR SAMPLES PRIOR TO INSTALLATION.
- 4. 1/2" POLY FOAM EXPANSION JOINT W/TEAR-AWAY TOP, SEE SPECS.
- 5. COMPACTED SUB-GRADE PER SOILS REPORT.



1. FINE BROOM FINISH INTEGRAL COLOR CONCRETE, RUN PERPENDICULAR TO 2. DEEP SCORE JOINTS; SEE CONST. PLAN FOR LAYOUT.

3. EDGE OF PAVING.

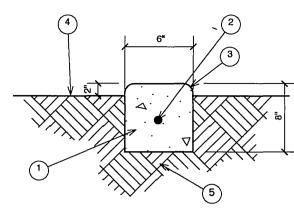
1. ASHLAR SLATE FINISH 2. SAWCUT SCORE LINES; SEE CONST. PLAN FOR LAYOUT.

3. EDGE OF PAVING.

DUST-ON COLOR

CONCRETE. (2 APPLICATIONS) RELEASE DUST-ON

(1 APPLICATION)



- 1. POURED CONCRETE MOW STRIP WITH FINE BRUSH FINISH.
- 2. #3 REBAR CONTINUOUS SET @ MID-DEPTH.
- 3. 1/2" BULLNOSE (TYPICAL). 4. FINISH GRADE.
- 5. 90% COMPACTED SUB-GRADE.

NOTE: INSTALL CONTROL JOINTS @ 8'-0" O.C. MAX. SPACING AND AT ALL END OF CURB RETURNS.





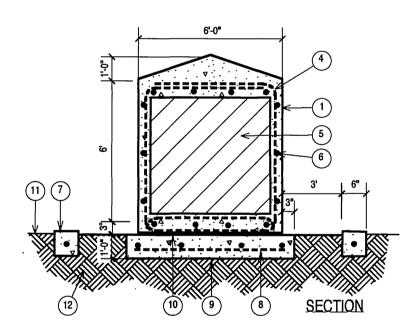
A. FINE BROOM FINISH W/DEEP

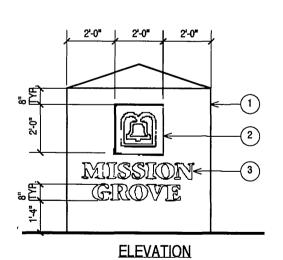
SCORE JOINTS

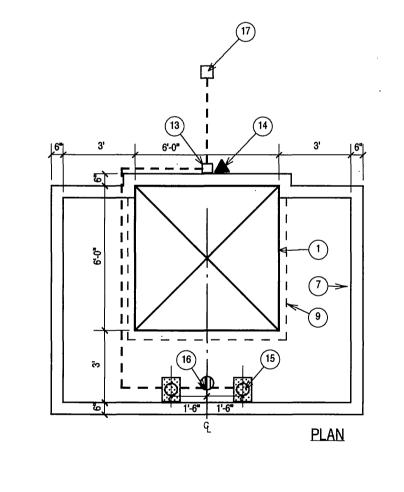






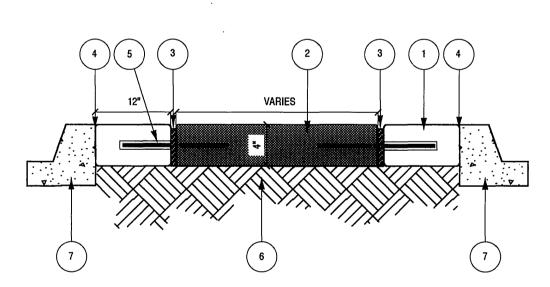




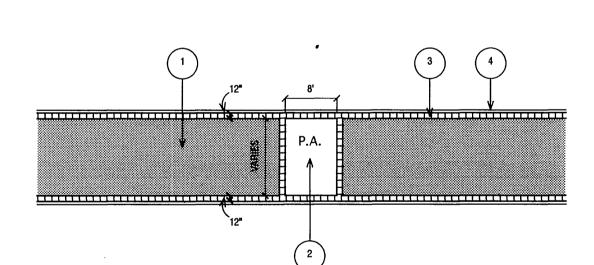




- PRECAST CONCRETE ENTRY MONUMENT AVAILABLE FROM DURA ART STONE. CONTACT BOB DUNCAN@ (714) 350-9000. FINISH TO BE NATURAL COLOR CONCRETE WITH SMOOTH TROWEL FINISH. MONUMENT TO RECEIVE TWO COATS OF WHITE EXTERIOR MASONRY PAINT.
- 2. 2' X 2' LOGO ON COLOR FIELD, FIELD RECESSED 2", LOGO RAISED 1" FROM FIELD.
- 3. 1' RECESSED LEETERS TO RECEIVE 2 COATS OF THEME COLOR. LETTERS AND LOGO TO BE ON STREET FACE OF CUBE. 4. 4, #4 REBAR, SIDE BEND AT TOP AND BOTTOM.
- 5. STYROFOAM CUBE INSERT TO FILL VOID DURING POUR.
- 6. #4 REBAR HOOP AT MIDPOINT 7. 6" X6" CONCRETE CURB WITH #3 REBAR AT MIDPOINT.
- 8. #4 REBAR HORIZ. 12" O.C. BOTH WAYS.
- 9. CONCRETE BASE (CONTRACTOR TO SET LEVEL TO GROUND PLANE).
- 10. EPOXY LAYER.
- 11. FINISH GRADE.
- 12. 90% COMPACTED SUB-GRADE. 13. JUNCTION BOX - 110-VOLT & GROUNDING TO BE PROVIDED BY OTHERS.
- 14. PHOTOCELL TO BE INSTALLED AS PER MANUF. DIRECTIONS.
- 15. "IMPERIAL BRONZELITE" GM4075-MV-H-B, E-17 LAMP LDX 75-WATT.
- 16. 4" PVC DRAIN CONNECTED TO DRAIN SYSTEM. SEE ENGINEER'S PLANS FOR SYSTEM LOCATION.
- 17. MEYERS ELECTRIC METERED PEDESTAL (SEE SHEET C-3 FOR PEDESTAL LOCATION)



- 1. BOMANITE CONCRETE BAND SEE CONSTRUCTION PLAN & LEGEND FOR WIDTH, COLOR, AND FINISH. PROVIDE 1/2" RADIUS AT JOINTS.
- 2. BOMACRON CONCRETE PAVING SEE CONSTRUCTION PLAN & LEGEND FOR
- FINISH. PROVIDE 1/2" RADIUS EXPOSED EDGES.
- 3. 1/2" THICK FULL DEPTH POLYFOAM EXPANSION JOINT WITH THIOKOL BEAD AT TOP. SEE PLAN FOR LOCATIONS TO MATCH ASHLAR SLATE COLOR.
- 4. COLD JOINT WITH 1/2" RADIUS EACH WAY. SEE PLAN FOR LOCATIONS. 5. 12" LONG #4 REBAR DOWELS @ 36" O.C. . SET @ MID-DEPTH. INSTALL WITH SLIP SLEEVE ON ONE SIDE.
- 6. COMPACTED SUBGRADE PER SOILS ENGINEER'S REPORT.
- 7. EXISTING 8" CONCRETE CURB FACE PER PROJECT ENGINEER'S PLANS.



- BOMACRON CONCRETE PAVING SEE CONSTRUCTION PLAN & LEGEND FOR FINISH.
- 2. PLANTER AREA.
- 3. 12"X12" BOMANITE CONCRETE BAND SEE CONSTRUCTION PLAN & LEGEND FOR WIDTH, COLOR, AND FINISH.
- 4. EXISTING 8" CONCRETE CURB.

MONUMENT CUBE- 6'

THE LICENSED LANDSCAPE ARCHITECT SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE WORK HEREON. IN THE EVENT OF DISCREPANCIES ARISING DURING CONSTRUCTION, THE LICENSED LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE

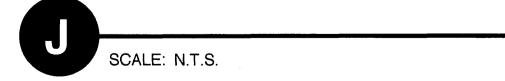
PAINT SCHEDULE

A. PANTONE 170C OR EQUAL B. PANTONE 169C OR EQUAL C. PANTONE 318C OR EQUAL









Underground Service Alert



Call: TOLL FREE

227-2600

TWO WORKING DAYS BEFORE YOU DIG





ARCHITERRA DESIGN GROUP
L A N D S C A P E A R C H I T E C T U R E
SITE PLANNING 10630 Town Center Dr., Suite 128 Rencho Cucamonga, CA 91730 (909) 484-2800 fax (909) 484-2802
Richard Krumwiede CA Lic. #2834 AZ Lic. # 29115 NV Lic. # 446

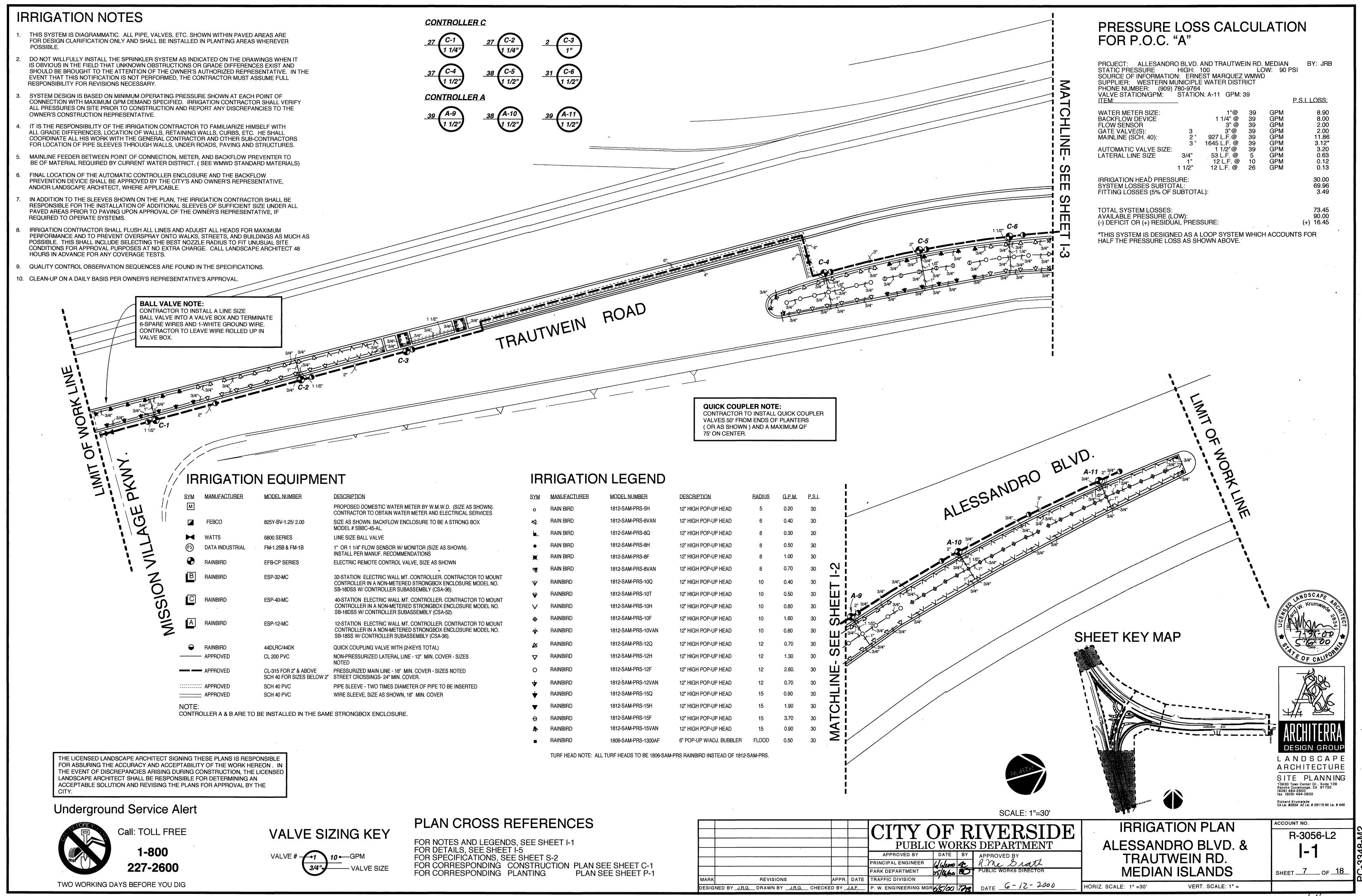
				CITY ()F	$\overline{\mathbf{R}}$	IVERSIDE	CONST
							DEPARTMENT	ALESS
				APPROVED BY	DATE	BY	APPROVED BY	TR/
				PRINCIPAL ENGINEER	Welzen .	L	R. me Grath	
				PARK DEPARTMENT	03/44/00 2	Q	PUBLIC WORKS DIRECTOR	1 ME
MARK	REVISIONS	APPR.	DATE	TRAFFIC DIVISION				
ESIGNI	ED BY <u>L.H.</u> DRAWN BY <u>L.H.</u> CHEC	CKED BY _	R.W.K.	P. W. ENGINEERING MGF	6/2/00 7	13	DATE 6-12-2000	HORIZ. SCALE: N.T.S.

CONSTRUCTION DETA
ALESSANDRO BLVD.
TRAUTWEIN RD.
MEDIAN ISLANDS

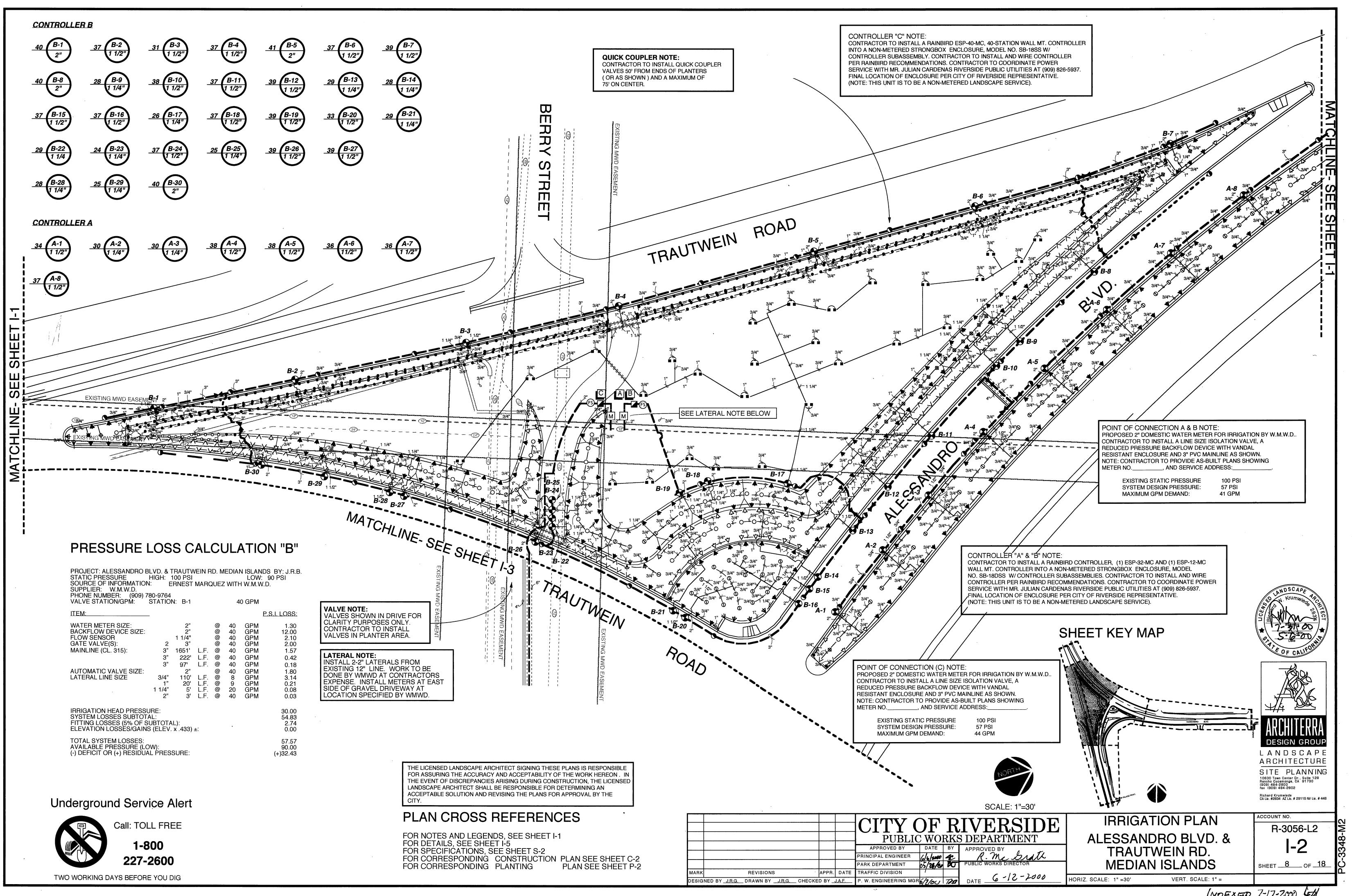
R-3056-L2

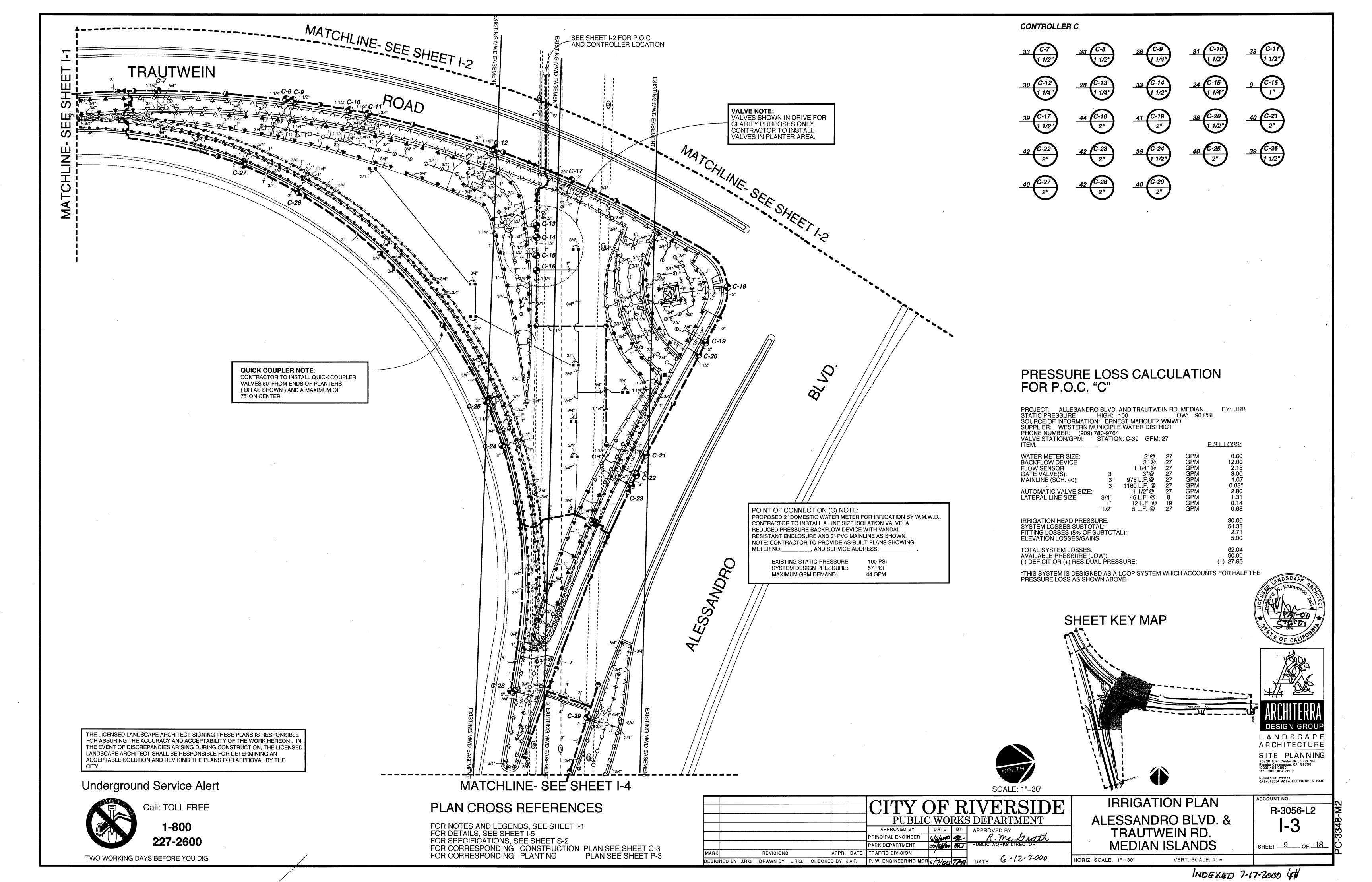
INDEXED 7-17-2000 4H

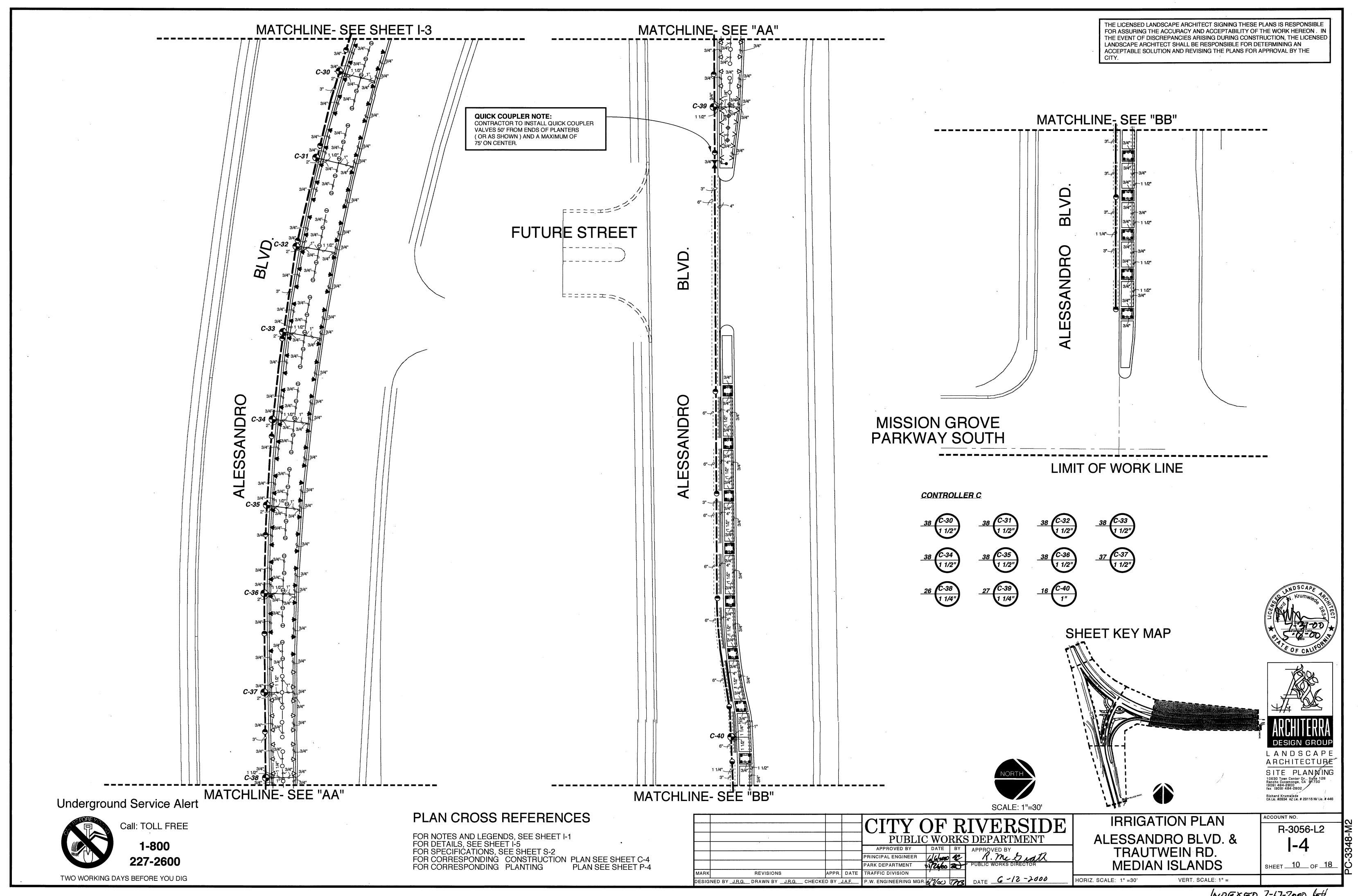
VERT. SCALE: N.T.S.

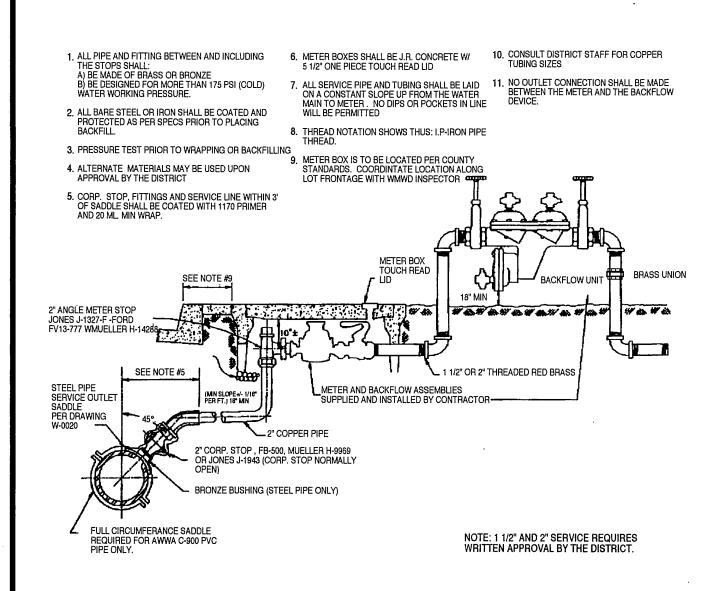


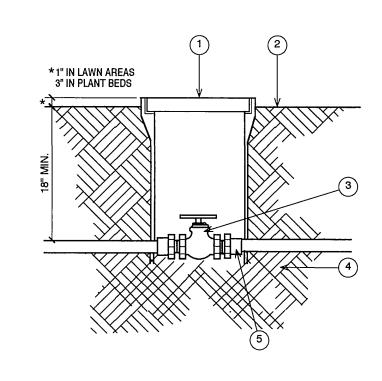
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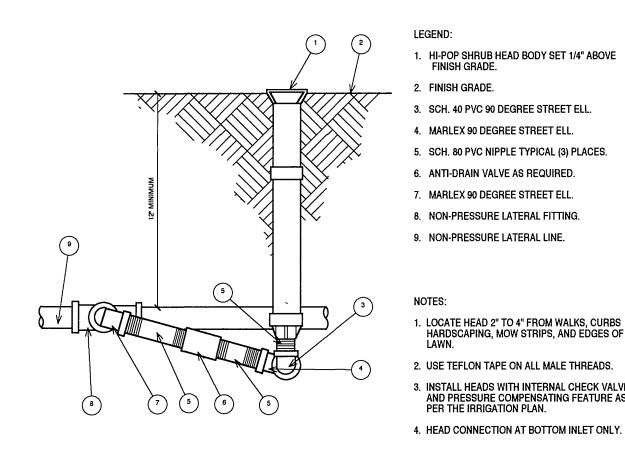




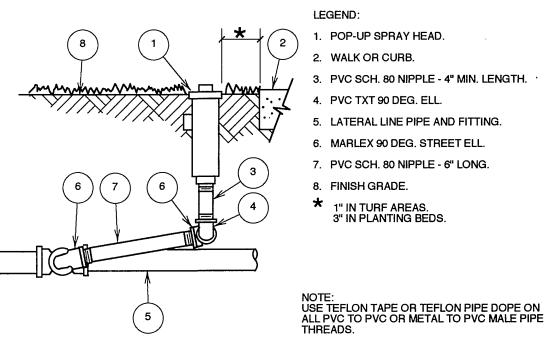




USE TEFLON TAPE OR TEFLON PIPE DOPE ON ALL PVC TO PVC OR METAL TO PVC MALE PIPE THREADS.



1. HI-POP SHRUB HEAD BODY SET 1/4" ABOVE FINISH GRADE. FINISH GRADE. 3. SCH. 40 PVC 90 DEGREE STREET ELL. 4. MARLEX 90 DEGREE STREET ELL. 5. SCH. 80 PVC NIPPLE TYPICAL (3) PLACES 6. ANTI-DRAIN VALVE AS REQUIRED. 7. MARLEX 90 DEGREE STREET ELL. 8. NON-PRESSURE LATERAL FITTING 9. NON-PRESSURE LATERAL LINE. 1. LOCATE HEAD 2" TO 4" FROM WALKS, CURBS HARDSCAPING, MOW STRIPS, AND EDGES OF







5. SCH. 40 PVC MALE ADAPTORS.

4. NATIVE SOIL.

1. ROUND VALVE BOX & COVER MARKED "IGATE VALVE ".

3. BALL VALVE - SEE IRRIGATION LEGEND FOR MODEL#.



1. ELECTRIC CONTROL VALVE.

. PVC MALE ADAPTER (TYP.)

. COMMON BRICK (4 REQUIRED).

9 NATIVE SOIL BACKFILL

11. PVC SCHEDULE 40 PIPE (TYP.)

15. COIL WIRES PER SPECIFICATIONS.

12. PVC SXS 90 DEG. ELL

13. WIRE CONNECTOR.

16. SCH. 80 UNION

2. RECTANGULAR VALVE BOX W/GREEN BOLT-DOWN COVER. HEAT BRAND VALVE

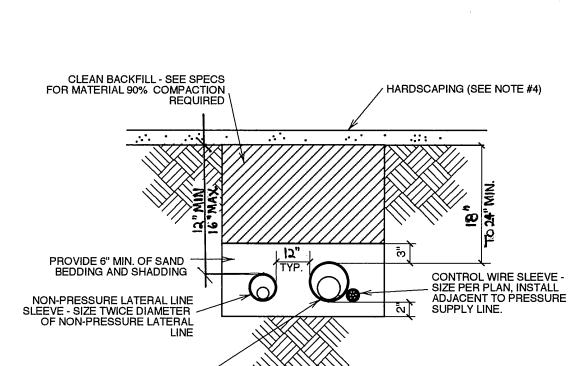
6. PVC PIPE TO SPRINKLERS - ANGLE PIPE TO SPECIFIED DEPTH WITH 45 DEG. ELLS.

. COMMON WIRE TO OTHER VALVES ON SAME

10. CONTROL/COMMON WIRES FROM CONTROLLER.

14. MAINLINE FITTING W/SOLVENT-WELD OUTLET.

STATION NO. ON LID IN 2" HIGH CHARACTERS



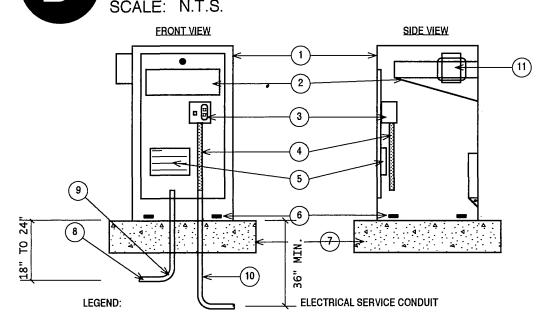
PRESSURE SUPPLY LINE SLEEVE -SIZE TWICE DIAMETER OF PRESSURE

NOTES:

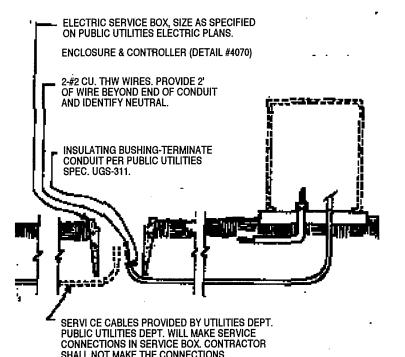
- 1. ALL SLEEVES TO BE SCH. 40 PVC.
- 2. EXTEND ALL SLEEVES 12" BEYOND EDGE OF HARDSCAPING AT BOTH ENDS.
- 3. ROUTE SLEEVING AROUND HANDICAP RAMPS.
- 4. PIPING UNDER PAVEMENT SUSCEPTIBLE TO TRAFFIC LOADS REFER TO CITY STD. (24" MIN. TO 36" MAX. DEPTH TO TOP OF PIPE BELOW STRUCTURAL SECTION).

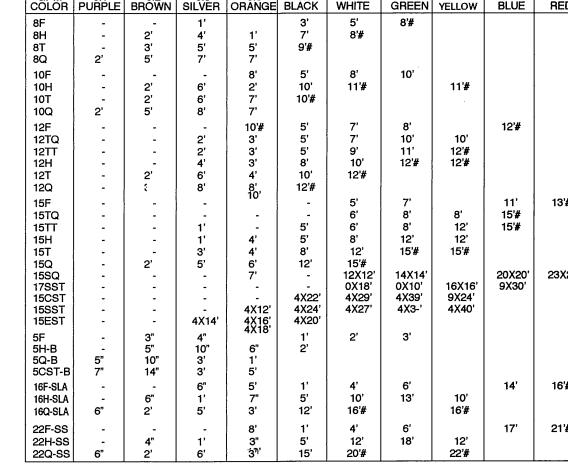
12" POP- UP (SHRUB HEAD)

AND PRESSURE COMPENSATING FEATURE AS PER THE IRRIGATION PLAN.



- 1. STRONGBOX NON-METERED STAINLESS STEEL ENCLOSURE
- 2. IRRIGATION CONTROLLER PER PLAN.
- 3. NEMA-3 GFI PLUG/SWITCH BOX WITH STAINLESS STEEL COVER PLATE.
- 4. FLUID-TIGHT CONDUIT INSIDE ENCLOSURE. 5. REMOTE MOUNTED TERMINAL BOARD WITH NUMBERED TERMINALS FOR ALL VALVES.
- ANCHOR BOLTS.
- 7. 20" W. X 17" D. X 4" H. CONCRETE BASE
- 8. WIRES TO REMOTE CONTROL VALVES. 9. 2" PVC SCH. 40 CONDUIT, FITTINGS AND SWEEP ELL
- 10. 2" PVC SCH. 40 CONDUIT, FITTINGS AND SWEEP ELL TO POWER SUPPLY PER UTILITY SERVICE.
- 11. RAIN GUARD IN VANDAL RESISTANT ENCLOSURE.

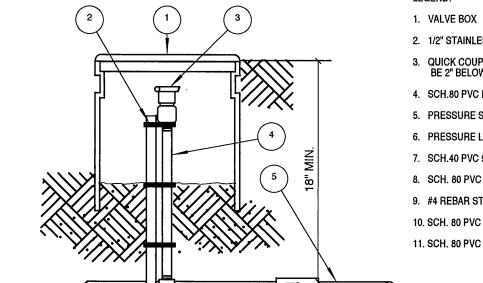


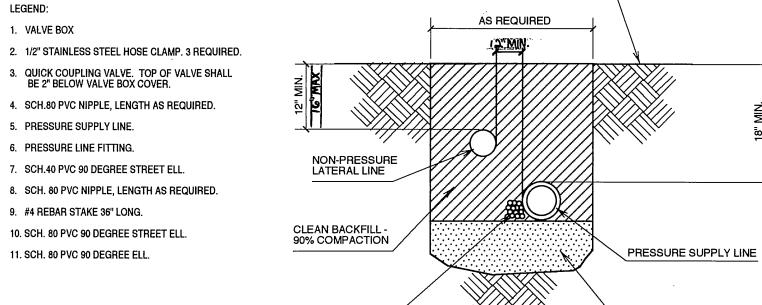


1800 PCS SCREEN PERFORMANCE STANDARD & SMALL RADIUS SPRAY PATTERNS AND UMBRELLA BUBBLERS

NOTE: SCREENS WERE TESTED AT 50PSI FOR 10 MINUTES PRIOR TO TAKING DISTANCE MEASUREMENTS. DISTANCES MAY VARY SLIGHTLY WITH HIGHER PRESSURES AND LONGER RUN TIMES.

PCS SCREEN CHART





NOTES:

CONTROL WIRES

- BELOW PAVED AREAS A MINIMUM OF 6" LAYER OF CLEEAN FILL SAND SHALL BE INSTALLED ABOVE AND BELOW PIPING.
- 2. PROVIDE MINIMUM COVER OF 24" ON PRESSURE SUPPLY LINES 3" AND LARGER.
- 3. WHEN USING RECLAIMED WATER, MAINTAIN MINIMUM 10' HORIZONTAL SEPARATION BETWEEN POTABLE AND RECLAIMED PRESSURE LINES. WHERE LINES CROSS, PROVIDE PVC SLEEVE FOR POTABLE LINE MINIMUM 5' EACH SIDE OF RECLAIMED WATER LINE.

MIN. 2" OF CLEAN EARTH

FINISH GRADE

4. BUNDLE WIRES WITH TAPE EVERY 10'.

TRENCHING

QUICK COUPLER

THE LICENSED LANDSCAPE ARCHITECT SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE WORK HEREON. IN THE EVENT OF DISCREPANCIES ARISING DURING CONSTRUCTION, THE LICENSED LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE

Underground Service Alert



Call: TOLL FREE 1-800 227-2600





Richard Krumwiede CA Lic. #2834 AZ Lic. # 29115 NV Lic. # 446

PEDESTAL/CONTROLLER

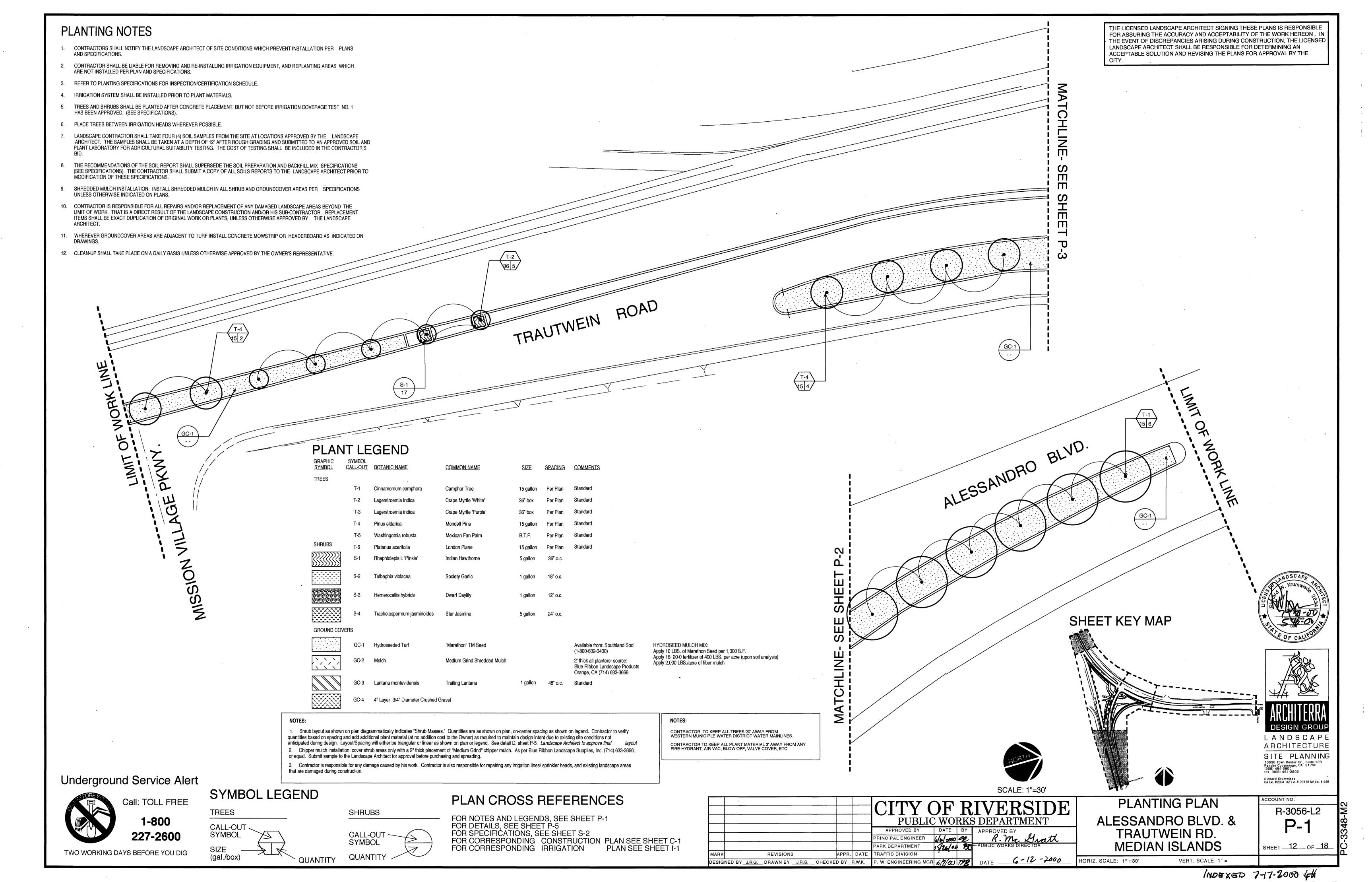
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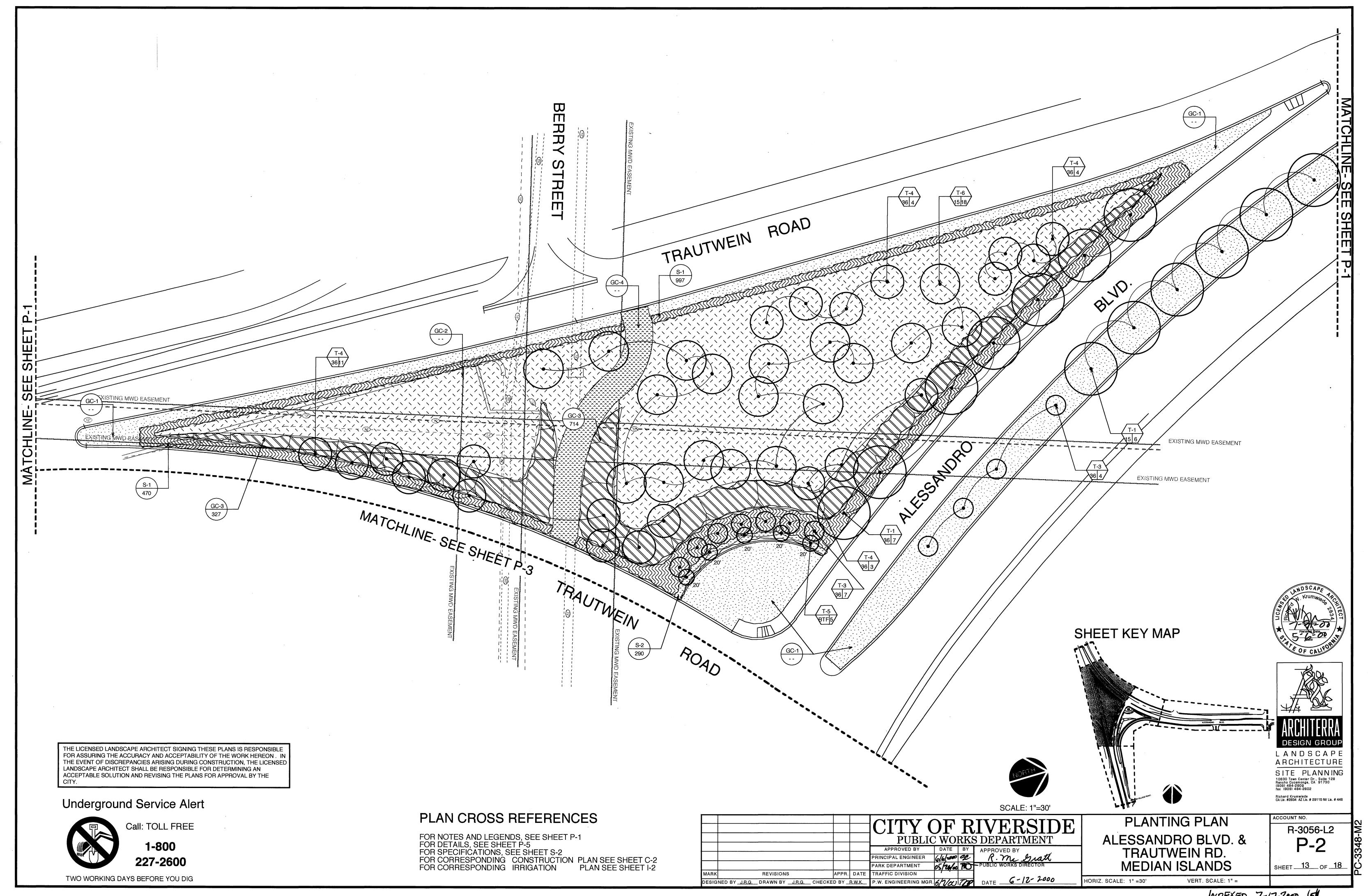
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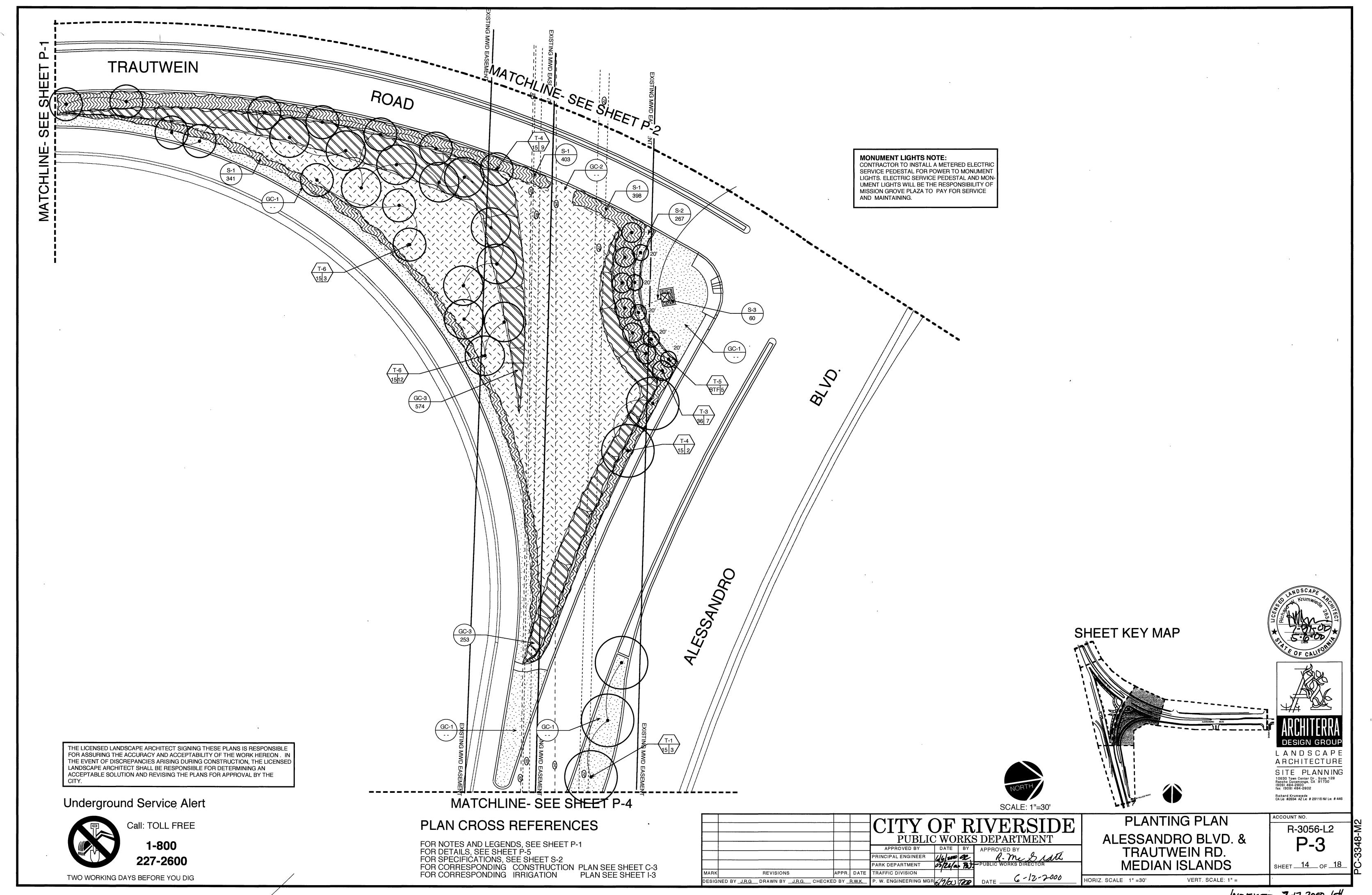
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R-3056-L2 SHEET 11 OF 18

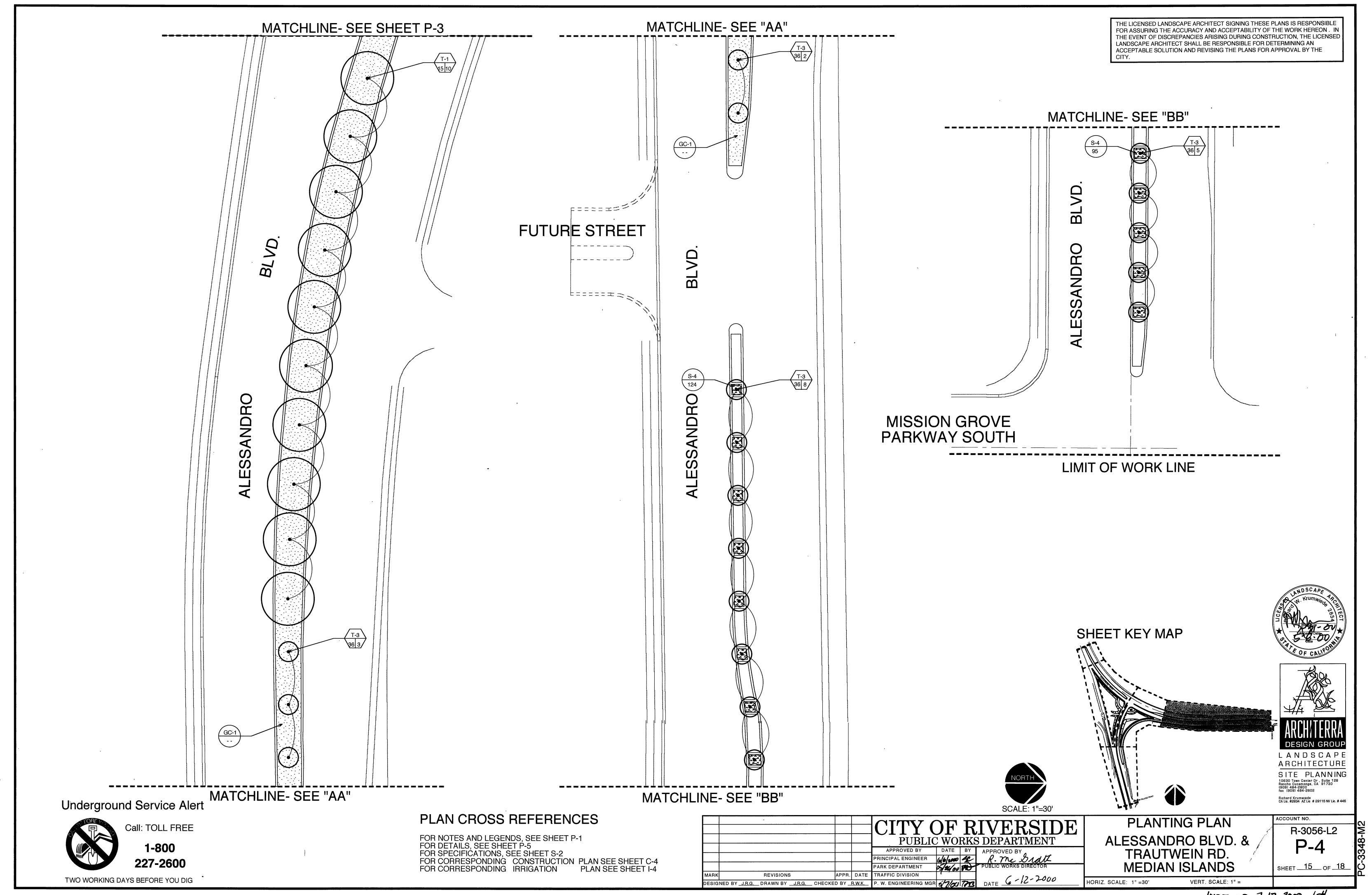
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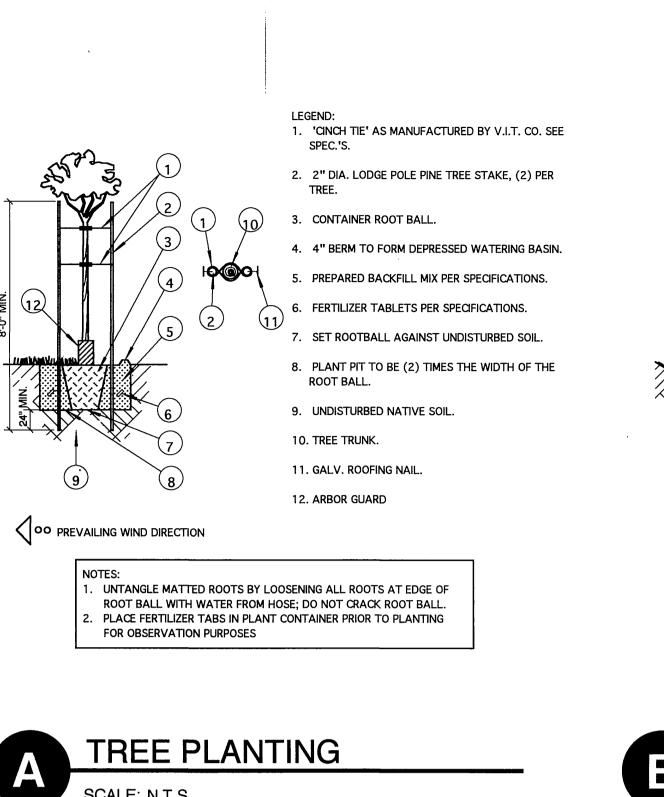


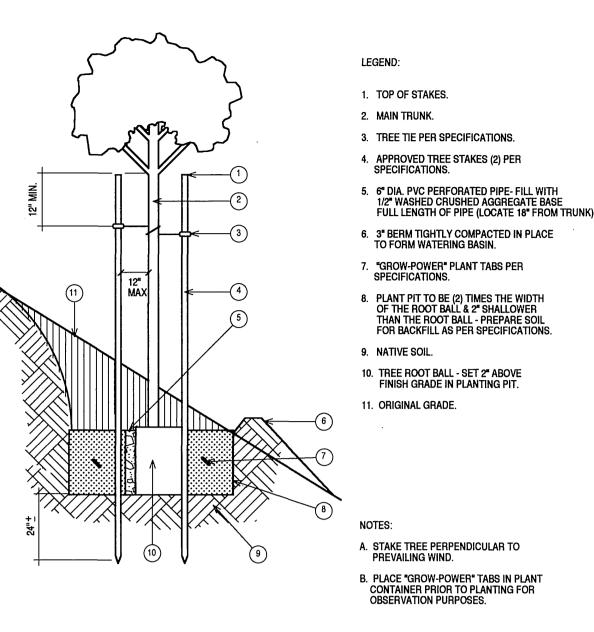


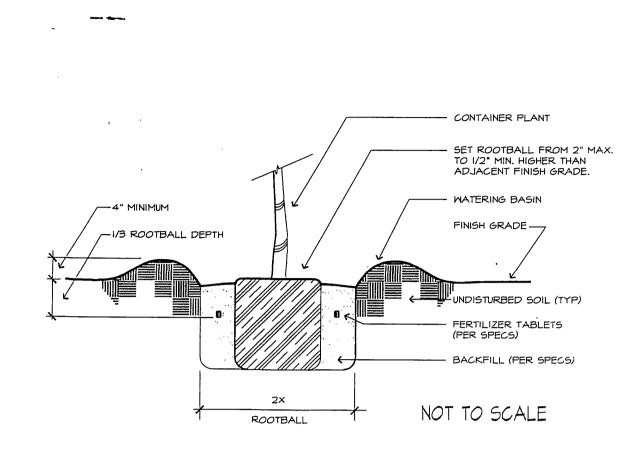


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GENERAL PLANTING NOTES

2) Trees planted in turf areas shall be maintained with a minimum 12" radius around the tree free of turf throughout the maintenance period. 3) Watering basins may be removed after the maintenance period. 4) For staking information as applicable, refer to Standard Detail 1002. 5) For guying information as applicable, refer to Standard Detail 1003.

For specification information, refer to City of Riverside Park and Recreation Department Standard Specifications, Section 02480 Planting.

any piant material.

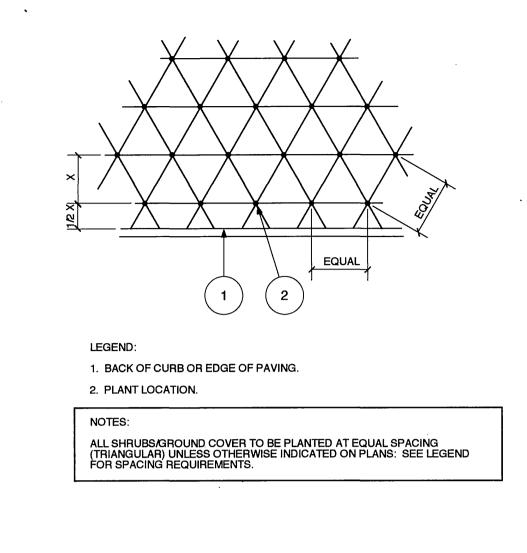
l gallon plant 5 gallon plant 15 gallon plant 24" box plant

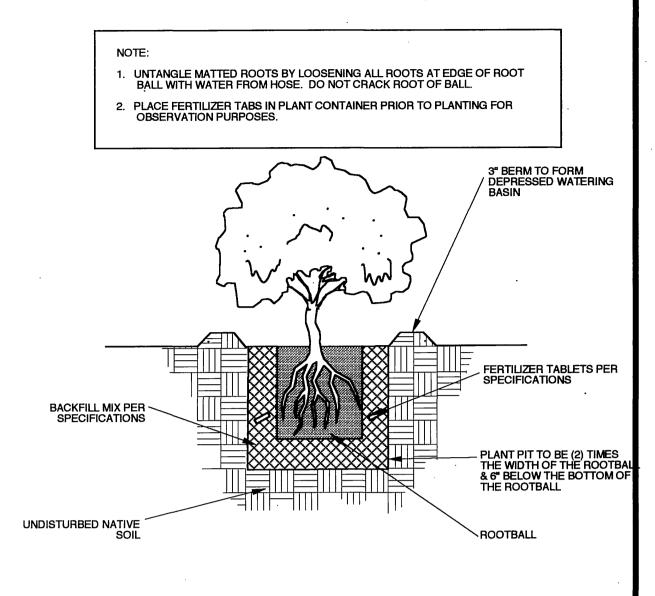
7) Provide Fertilizer Tablets as follows:

2 tablets 3 tablets

8 tablets

1) Contact the Street Tree Inspector at 351-6126 two working days (46 nours) prior to installing





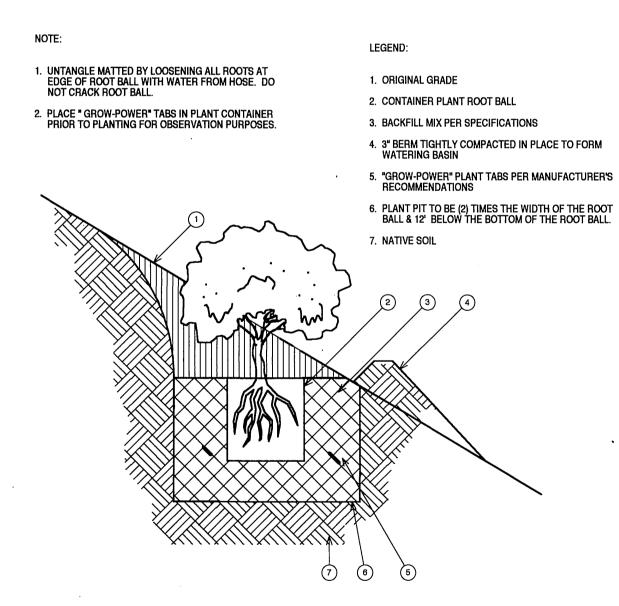




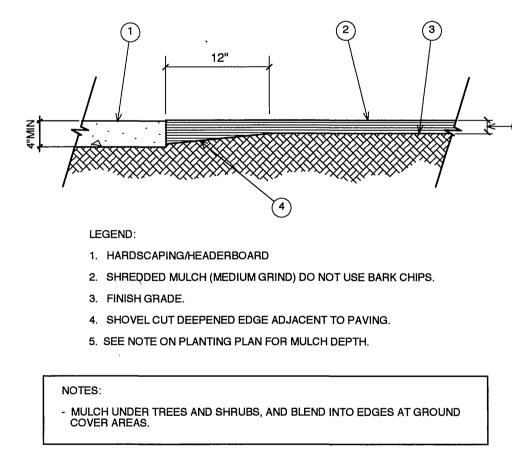


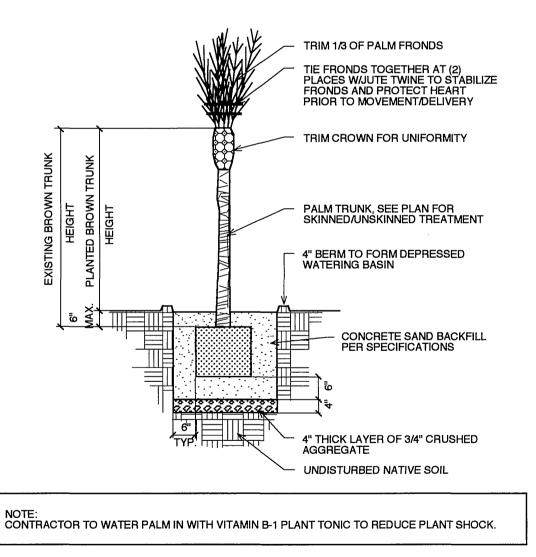


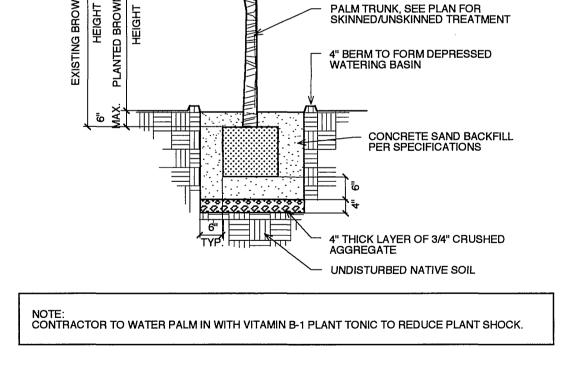






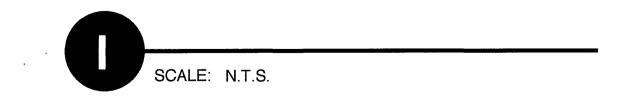














Underground Service Alert



Call: TOLL FREE 422-4133

TWO WORKING DAYS BEFORE YOU DIG



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DETAILS R-3056-L2 O BLVD. & IN RD. SLANDS VERT. SCALE: N.T.S.

CONCRETE

<u>PART 1 - SCOPE OF WORK</u>

1.01 WORK INCLUDED

Work includes, but is not limited to the following: Furnish all labor and materials, appliances, tools, equipment, facilities, transportation, and services necessary for installing all concrete work complete as indicated on the drawings and specifications including, but not limited to:

- A. Furnish and set all reinforcing steel, bolts and anchors.
- B. Install all items required by other trades which are to be cast into concrete.
- Concrete mow curbs, banding, poured in place walls, other flatwork, footings, pans and slabs for: walls, fencing, benches, controllers, decks, etc., where applicable.

PART- 2 GENERAL

All requirements of subsection 3.31, standard specifications for Public Works Construction, shall apply except as specified herein.

2.1 INSPECTION OF SITE

Examine related work and surfaces before starting work in this section. Report to the Landscape Architect in writing, site conditions which will prevent the proper provision of this work. Beginning the work in this section without reporting unsuitable conditions to the Landscape Architect constitutes acceptance of site conditions by the Contractor. Any required removal, repair, or replacement of this work caused by unsuitable conditions shall be done at no additional cost to Owner.

2.2 PROTECTION OF EXISTING CONDITIONS

Contractor shall acquaint himself with all site conditions. He shall take necessary precautions to protect existing site conditions. Should damage be incurred, this Contractor shall repair damage to its original condition or furnish and install equal replacement at his own expense, to the satisfaction of the Owner.

- Cooperation On-Site; Coordinate and cooperate with other contractors to enable the work to proceed as rapidly and as efficiently as possible.
- B. Work With Other Trades; Coordinate with General Contractor items of other trades to be furnished and set in place. Such portions of their work as all or in part embedded, built-in, attached to, or supported by the work shall be executed by them in ample time that progress of the work is not delayed. Any cutting or patching made necessary to comply with this injunction shall be done at the Contractor's expense.

2.5 APPROVAL

Wherever the terms "approve," "approval," or "approved" are used in the Specifications, they mean approval of the Landscape Architect, the Owner's Representative or their field representatives, or in writing.

2.6 SUBMITTALS

2.6 SUBMITTALS

At least 10 days after award of contract, Contractor shall submit for approval samples and/or manufacturers' latest catalog cuts and specifications of the following prior to beginning work. Approved samples shall be standards for completing work.

- A. One 2-ft. x 2-ft. x 2-in. sample for each type of concrete finish and color at the job site.
 - B. Color samples for expansion joint compounds.
 - C. All submittal data shall be forwarded in a single package to the Landscape Architect within 15 days after award of the GeneralContract unless otherwise approved by the Landscape Architect and/or Owner's Construction

2.7 SUBSTITUTIONS

- A. Standards; Specific reference to manufacturers' names and products specified in this section are used as standards; this implies no right to substitute other material or methods without written approval of the
- B. Approval; Installation of any approved substitutions is Contractors's responsibility. Any changes required for installation of any approved substitution must be made to the satisfaction of Landscape Architect and without additional cost to Owner. Approval by Landscape Architect of substituted materials and/or dimensional drawings do not waive these requirements.

PART 3 - MATERIALS

Materials shall be of first quality and of domestic manufacture as noted below:

- A. Portland cement shall conform to ASTM-C150, Type I or Type II.
- B. Concrete aggregate shall conform to ASTM-C33.
- C. Water shall be clean, free from strong acid, alkali, oil or organic matter.
- D. Admixture for all formed concrete shall be SIKA Chemical Corp.'s "Plastiment", or approved equal, applied in strict accordance with manufacturer's directions.
 E. Reinforcement: reinforcing steel ASTM-A15 and ASTM-A305.Wirefabric: ASTM-A185
- F. Forms:
- 1. Lumber shall be "construction grade" Douglas fir.
 - Plywood for forming of concrete which is exposed shall be Plyform. All plywood used for forming shall be at least 5/8 -inch thick and edge sealed.

G. Expansion joint filler shall conform with ASTM-D1751 (premoided) PART 4 - EXECUTION

4.01 CONCRETE DESIGN MIX

- A. Contractor assumes responsibility for the design mix and guarantees the specified ultimate strength as indicated or specified herein.
- B. Concrete, minimum 28-day ultimate strength shall be 2000 PSI.
 C. Ready-mixed concrete shall conform to ASTM-C94.

4.02 CONCRETE PROPORTIONS & CONSISTENCY

- A. The proportions of aggregate to cement shall provide a dense mixture which will readily work into all corners of the forms and around all reinforcements without any segregation of the materials, cause excess free water to collect on the surface or cause excessive bleeding of the forms.
- B. The recommended practices of the American Concrete Institute shall be followed inall applicable procedures.

 The maximum slump shall not exceed (4") four inches for footings, slabs on grade, and mass concrete; 5 inches for foundation walls.

4.03 CONCRETE APPROVAL

The concrete quality, proportions, consistency, etc., is subject to the approval of Owner, and no changes shall be made without prior written approval.

4.04 FORMWORK

- A. Forms for concrete work shall be either metal or wood. Forms that are warped or that do not have a smooth straight upper edge shall not be used. Forms shall be set with the upper edge of the board true to line and grade and shall be staked rigidly in place with stakes set not more than four feet (4') apart so as to remain immovable throughout the construction. All forms shall be approved by Owner within a tolerance of one percent (1%). All materials shall be accurately and separately weighted and mixing shall continue until the distribution of material is uniform and the mass of concrete is homogeneous.
- B. Two and one-half (2 1/2) gallons of water per cubic yard, shall be withheld from the mix at the plant, and all or a portion may be added to the mix at the job site as directed by the Inspector. The concrete shall be mixed at least 5 minutes after such water is added and not less than 3 minutes of this time shall be immediately prior to the discharge of the batch. Total mixing time after adding original water shall be at least 15 minutes.
- Concrete which is not placed within 90 minutes after the introduction of cement and water, and concrete which has stood for 30 minutes after leaving the mixer, shall not be used.

4.05 REBAR

Reinforcing bar shall be spliced with 40 bar diamers minimum overlap.

4.06 CONVEYING AND PLACING

- A. Before pouring, all forms shall be thoroughly cleaned and made tight. The bottom of trenches shall be wet down before pouring footings; earth shall not be muddy at the time of pouring. Concrete shall not be placed until reinforcements, rough hardware, and forms are approved by Owner.
- B. Before depositing new concrete against old concrete, all laitance shall be removed, and the surfaces roughened to expose the embedded aggregate. The surfaces shall then be covered with cement grout, using the specified mix with 1/2 of the course aggregate omitted, 1-1/2 inches thick.
- C. Conveying and placing of concrete shall be done so as to prevent separation of ingredients, and in no case shall the free fall exceed 6 feet. Tremies shall be used as required. Surfaces of concrete shall be kept reasonably level, with a minimum amount of concrete being allowed to flow after being placed. Placing shall be performed as a continuous operation until each section is completed.
- Concrete shall be spaded and vibrated with mechanical vibrators to a maximum subsidence, without separation of ingredients. The moving of concrete by vibration will not be permitted.

separation of ing 4.07 COLORED CONCRETE

Integral color and Dust-On color hardner shall be as specified on plans and details

Integral color and Dust-

- A. Grout shall be composed of one part Portland Cement and two parts of fine aggregate by volume. Materials shall be mixed dry and water added just sufficient to make the mixture flow under its own weight.
- B. For dry tamp cement grout, a minimum of water shall be added to the mix so that when wet sample is squeezed hard in the hand, surface moisture, but no free water, shall appear on the sample. Do not mix more than can be

4.09 CURING AND PROTECTION

- A. All exposed surfaces of concrete shall be protected from damage due to temperature, elements, and
- construction operations.

 B. Curing shall be as follows:
 - All exposed surfaces of concrete shall be protected form premature drying and freshly placed concrete shall be protected against wash by rain. All concrete shall be kept wet for a period of ten days after placing. In order that curing water may reach both surfaces of walls, the forms shall be loosened and water shall be poured over the tops of the walls and allowed to run down between the
 - All liquid curing compounds shall be used in accordance with the manufacturer's recommendations and shall not be used on surfaces receiving concrete hardener.

4.10 DEFECTIVE CONCRETE

- A. Concrete which is not in accordance with these specifications, out of line, level, or plumb; showing structural cracks, rock pockets, voids, spalls, honeycombing, exposed reinforcing or other damaged surfaces shall be considered as defective.
- B. All fines and irregularities shall be removed from exposed concrete surfaces while the concrete is still green. Where patching is required, all loose and uniform concrete shall be removed prior to patching.

4.11 CONCRETE FINISHES

Flat surfaces shall be screeded to the required levels and slopes and then any excess water or laitance removed. Concrete shall be compacted with a grid tamper and then floated to a true and level surface within the tolerance of 1/8-inch along a 10-inch straight edge. Contractor shall ensure positive drainage on all flatwork. See Plans for concrete finish in landscape areas.

4.12 EXPANSION JOINTS

Placement of expansion joints shall be as directed and determined by layouts of slab markings noted on drawings. Expansion joint material shall be Poly Foam, or approved equal, or as noted on Plans. Expansion joints shall be recessed one-quarter inch from finish surface and sealed with a bead of grey thiokol sealant or equal. Silka sand to match concrete color shall then be tamped into

4.13 CONTROL JOINTS

Control joints and other edges shall be formed in tresh concrete using a clean edging or jointing tool to provide a smooth uniform

4.14 PROTECTION

All finished concrete work shall be barricaded to pedestrian traffic for three (3) days. Barricades shall be placed immediately after concrete finishing. Contractor shall furnish, place and remove all of his own barricades.Contractor shall be responsible for any damage to new construction and replacement of repair of the work shall be made without added cost to Owner.

4.15 PATCHING

If patching is necessary and permissible, a bonding agent such as Weld-Crate, or equal, shall be used.

4 16 CONCRETE CURRS

Construct concrete curbs at locations shown on Plans as detailed, true to line and grade, as approved by the local County or City. Use natural grey Portland cement concrete, 2000 PSI compressive strength. Locate expansion joints as detailed or shown, and as directed, at intervals not to exceed fifteen feet (15'). Finish with steel trowel, then brush with bristle brush parallel to face or edge.

Upon completion of all concrete work and before final acceptance, Contractor shall remove all tools, surplus materials, apparatus, debris, etc., from the site and the site shall be left in a clean, neat condition acceptable to Owner. PART 5 - WARRANTIES

In addition to manufacturers' guarantees or warranties, all work shall be warranted for one year from the date of final acceptance against all defects in materials and workmanship by contractor. Warranty shall also cover repair of damage to any part of the premises resulting from defects in materials and workmanship to the satisfaction of the Owner.

END OF SECTION

CONCRETE SPECIFICATIONS NOTE:

FOR CONCRETE INFORMATION REFER TO THE **STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK)**: EDITION PER THE CITY
OF RIVERSIDE IF APPLICABLE). REFER TO SECTIONS RELATED TO THE INSTALLATION,
PER AND POST INSTALLATION OF CONCRETE WORK, MATERIALS, LABOR, AND
CLEAN-UP. THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCITON
IS AVAILABE FROM:

BI BUILDING NEWS 3055 OVERLAND AVENUE LOS ANGELES, CALIF. 90034 (310) 202-7775

IF A CONFLICT BETWEEN THESE SPEIFICATIONS AND THE **GREEN BOOK** OCCURS, THE **GREEN BOOK** WILL SUPERSEDE.

PAINTING

PART 1 - SCOPE OF WORK

1.01 WORK INCLUDED

Furnish all labor, tools, equipment, materials, transportation, and perform all operations necessary and incidental to proper execution and completion of all painting work in accordance with the Drawings and Specifications. Such work includes, but is not limited to, the

- A. Handrails
- A. Handrails
- B. Miscellaneous metals
- C. Wood overhead structure

Fencing

D. Decks

1.02. RELATED WORK IN OTHER SECTIONS

The following items of associated work are included in other sections of these Specifications:

A. Shop paint of steel materials and miscellaneous metal items

<u>PART 2 - GENERAL</u>

2.01 SUBMITTALS

Before beginning work, prepare for approval a sample of each color and finish required. Such samples, when approved, shall constitute standards for color and finish for acceptance of completed work. Samples shall be made upon materials corresponding with those to be finished on the site. All work shall match the approved colors and samples. Submit samples to the Landscape Architect 15 days prior to construction for approval.

2.02 PRODUCT HANDLING

All painting materials shall be delivered to the site in the manufacturers' original containers with labels intact and seals unbroken. They shall be stored in a safe place, in accordance with current local regulations. All necessary precautions shall be taken to avoid

2.03 ENVIRONMENTAL CONDITIONS

Surfaces shall be painted only when they are free from moisture. No painting of exterior surfaces shall be done less than 72 hours after a rain, nor during periods of dew or fog. Receiving surfaces shall be properly dried out before proceeding with the work. No painting shall be done when temperature is below 50 degreesF.

2.04 SCAFFOLDING AND PROTECTION

Furnish, maintain and remove all scaffolding and ladders required for this work, and all drop clothes for the protection of walks, fixtures, or other surfaces not to be painted. Painted and finished surfaces subject to damage or defacement shall be property protected and covered. Contractor shall be responsible for any and all damage to painted work, and to that of other work caused by operations under this Section, part 3 - materials

3.01 MANUFACTURERS

- Materials are specified by brand names to establish a standard of quality. The Landscape Architect will consider substitutions for brand names of products specified, provided the procedures set forth for substitutions and submittals are followed. The Landscape Architect reserves the right to reject any material which, in his opinion, will not produce the quality of work specified herein. The term "paint" as used herein includes enamel, paints, stains, varnishes, emulsions, lacquers and sealers. The following manufacturers' products and numbers constitute the standards for the primer and finish coats of the paint hereinafter specified:
- Primer: Federal Specification TT-P-86, Type II (red lead/alkyd type) or TT-P-645 (zinc chromate type) to be compatible with finish coat.

Finish Coats: Enamel, paint, stain, varnishes, emulsions, lacquers and sealers shallbe as specified on plans and details.

3.02 COLOR AND LIFE OF FINISH

- A. Colors shall be selected by Landscape Architect. Owner reserves the right to change colors to match and/or contrast building colors up to and including time of execution.
- Color of all surfaces finished under this Section shall, at the end of one year, have remained from serious fading, and no variations will be allowed. All materials shall then have adherence to the end of one year, and there shall be no evidence of blisters, running, pealing, sealing, chalking, streaks or strains at the end of this

3.03 MATERIALS FOR GENERAL USE

Thinner, linseed oil, or other solvents required shall be as recommended by each manufacturer for his respective product.

PART 4 - EXECUTION 4.01 SURFACE PREPARATION

- A. Painting: No painting or finishing shall be started until the surfaces to be painted or finished are in proper condition in every respect. Surfaces that cannot be properly prepared by the painter for finishing shall not be painted or finished until they are rectified, unless instructed otherwise by the Landscape Architect.
- painted or finished until they are rectified, unless instructed otherwise by the Landscape Architect.

 Cleanliness: Surfaces to be painted shall be clean and free of dirt, dust, and any other substance which might
- interfere with the application of the paint. All surfaces to be painted shall be in proper condition to accept, and assume the proper adhesion and functioning of, the particular painting or coating specified.

 C. Notification: Surfaces which cannot be prepared or painted as specified shall be immediately brought to the attention of the Landscape Architect. Starting of work without such notification will be considered acceptance by Contractor of the surfaces involved. Contractor will be required to replace any unsatisfactory work caused by improper or defective surfaces, as directed by the Landscape Architect, at no additional cost to the Owner.

by improper or defective surfaces, as 4.02 WORKMANSHIP AND APPLICATION

- Quality: All painting shall be done by skilled and experienced craftsmen working under the supervision of a capable foreman. All workmanship shall be of the highest quality and to the complete satisfaction of the Landscape Architect. All materials shall be applied in accordance with the manufacturers' directions, and materials shall be thinned only in compliance with the manufacturers' specifications.
- B. Preparation: All material shall be evenly brushed, rolled or smoothly flowed on without runs or sagging and free from drops, ridges, laps, and brush marks. No coats shall be applied until any previously applied coats have thoroughly dried. Sand surfaces between coats as necessary to produce a smooth finish.
- C. Application shall be as follows
- Application shall be as follows:

 1. Paint: Two coats to match color of buildings color to be selected by Owner.
- Primer: Two coats one coat shop applied and one coat site applied.
 Unless otherwise instructed, all paints and primers shall be sprayed or rolled on-site.

Finished Product: Completed painted surfaces shall be free of blistering, running, peeling, scaling, streaks or stains, and the colors of all surfaces shall remain free from fading and uniform in color.

4.03 CLEANUP AND CLEANING

PART 5 - WARRANTIES

A. Safety/Cleanliness: Upon completion of the painting work, Contractor shall remove from the premises and dispose of all scaffolding and equipment, surplus material, empty containers and other debris resulting from Contractor's operations. The site shall be left clean and neat in all respects.

in addition to manufacturers' guarantees or warranties, all work shall be warranted for one year from the date of Final Acceptance against defects in materials and workmanship by Contractor. Warranty shall also cover repair of damage to any part of the premises resulting from defects in materials and workmanship to the satisfaction of the Owner. END OF SECTION

CITY OF RIVERSIDE CONSTANTS

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DESIGNED BY JRG CHECKED BY R.W.K. CHIEF P. W. ENGINEER STOOL OF DATE G-12-2000
HORIZ. SCALE: N.T.S.



CONSTRUCTION SPECS
ALESSANDRO BLVD. &
TRAUTWEIN RD.
MEDIAN ISLANDS

VERT. SCALE: N.T.S

R-3056-L2

ACCOUNT NO.

SHEET 17 OF 18

INDEXED 7-17-2000 4H

LANDSCAPE IRRIGATION SYSTEM 2. Amend Standard Specifications Section 308-2.2, Subparagraph 2 Waterlines B. Steel Pipe: Amend Standard Specifications Section 212-2.1.2 Steel Pipe to read: "All steel pipe shall be hot-dipped galvanized,....", and add: "All fittings for steel pipe shall be 250 pound rated galvanized maileable iron, banded pattern. Pipe sizes indicated on the Plans are nominal inside diameter, unless otherwise noted." PART 1 - GENERAL Lines) to read: Lateral irrigation lines- minimum 12 inches and maximum 16 inches Amend Standard Specifications Section 308-2.2, Trench Excavation and Backfil 1.01 STANDARD SPECIFICATIONS: The provisions of the "Standard Specifications for Public Works Construction" current edition, shall apply except as modified herein. Plastic Pipe: 1. Add the following to Standard Specifications Section 212-2.1.3 Plastic Pipe for Use with Solvent Weld Socket or Threaded Fittings: 1.02 SCOPE: The work of this Section shall consist of furnishing all labor, materials, equipment appliances and services necessary for the execution and completion of all irrigation Work as shown on the Plans and as described in the Specifications including, but not necessarily limite "All plastic pipe shall bear the following markings: manufacturer's name, nominal pipe size, schedule or class, type of material, pressure rating in PSI, NSF seal of approval, and date Provide complete operating irrigation systems; Installation of new and refurbishment of existing irrigation systems as necessary to provide complete operating irrigation systems for all planting areas within the Park; 120 voit electrical service for and connection to the controller; Amend Standard Specifications Section 212-2.1.3 Plastic Pipe for Use with Solvent Weld Socket or Threaded Fittings to read: "All plastic pipe fittings shall be standard weight schedule 40 and shall be injection molded of Replacement of existing controllers with Toro Network 8000 Irrigation Controller; Telephone service for and connection to the Toro Network 8000 Controller; an improved PVC fitting compound. All threaded plastic fittings shall have injection molded threads. NQ cut threads will be accepted on PVC pipe and fittings. All tees and ells shall be manufactured in injection molds that are sidegated. All threaded nipples shall be standard Coordination with Work of other sections: Add first sentence of Standard Specifications Section 212-2.1.4 Plastic Pipe for Use with Rubber Ring Gaskets to read: Replacement, Repairs, Guarantees and Warranty Work. "All rubber gasket PVC pipe, couplings, and fittings shall conform to ASTM D 2241 Type 1, Grade 1, 2000-PSI design stress"; and add the following to the Section: "Couplings, rubber gaskets, and fittings shall be as approved by the pipe manufacturer. Ring-type rubber gasket couplings shall permit a five (5) degree deflection of the pipe at each coupling (2-1/2 degrees each side) without ex-filtration or infiltration, cracking or breaking." 1.03 RELATED WORK: Amend Standard Specifications Section 308-2.2 Trench Excavation and Backfill to Site Clear and Grub and Selective Demolition Planting Concrete, Paving and Curbs D. Asbestos Cement Pipe (ACP): Add the following to Standard Specifications Section Aspestos Cement Pipe (ACP): Add the following to standard specifications section 212-2.1.6 Asbestos Cement Pipe and Fittings: (Note: Installation of new ACP shall not be a part of the project. This specification information is provided in the event connections to existing piping of this type is necessary.) Fittings for ACP connection laterals shall be cast iron tees and bossed couplings except as follows: 1. Double strap service clamps with rubber seals and flat bronze straps may be used for connections of 50 percent or less than the diameter of pipe. 2. Tapped ACP couplings with brass inserts may be used for connections of 3/4, 1, 1-1/4, 1-1/2 and 2 inches. the Soils Engineer and the Park Projects Inspector. Under no circumstances shall the wheels of any vehicle not designed for the purpose of soils compaction be used to compact backfill. 1.04 SUBMITTALS: Materials List: Contractor shall submit a complete materials list for approval by the Parks Department Representative prior to performing any Work. Catalog data and full descriptive literature must be submitted whenever the use of items differ than those specified is 3.03 PIPE INSTALLATION: requested. Notarized certificate must be submitted by plastic pipe and fitting manufacture indicating that material compiles with the Project Specifications, unless material has been A. General: Add the following to Standard Specifications Section 308-5.2.1 Irrigation 2.03 VALVES AND VALVE BOXES: previously approved, and used on other projects by City. Material list shall be submitte using the following format: Valves: 1. Ball Valves: All ball valves shall be bronze bodied, capable of withstanding a minimum Manufacturer Description Pressure Supply Line working pressure of not less than 150 psi. Manual Control Valves: Add the following to Standard Specifications Section 212-2.2.3 Manual Control Valves: Anti-siphon-type valves shall be all bronze with swivel-type "Record" Prints: 1. Record accurately on one set of blue-line prints all changes in the Work constituting departures from the Plans, including changes in pressure and non-pressure line eable seating members and an approved vacuum breaker as an integral part of Quick-coupling Valves: Add the following to Standard Specifications Section 212-2.2.6 Quick Coupling Valves and Assemblies: Quick coupling valves shall have locking The changes and dimensions shall be recorded in a legible and workmanlike manne to the satisfaction of the Parks Department Representative. Prior to final inspection of the Work, submit "record" prints to City for approval. Dimension from two permanent points of reference (buildings, monuments, sidewalks, curbs, paverment, etc.). Data to be shown on "record" prints shall be recorded day-to-Remote Control Valves: Add the following to Standard Specifications Section 212-2.2.4 Remote Control Valves: a) Valves shall be spring-loaded, self-cleaning, packless diaphragm activated, of a day as the project is being installed. Show locations and depths of the following items: Valve solenoid shall be corrosion-proof and constructed of stainless steel molded in epoxy to form one integral unit, and shall be 24 volt A.C., 2.0 watt maximum (2*) Point of connection. Routing of irrigation pressure lines (dimension maximum 100 feet along routing). Ball valves. Irrigation remote control valves. Quick coupling valves. Routing of control wires. Routing of control wires. Plastic Pipe: Add the following to Standard Specifications Section 308-5.2.3 Plastic Pipeline: Valve shall close against flow without chatter and with minimum closing surge pressure (minimum 5 seconds closing time per valve). d) Valve shall be completely serviceable in the field without removing valve body from Boxes: 1. Concrete Valve Boxes: Add the following to Standard Specifications Section 212-2.2.7 Valve Boxes: Remote control valve boxes shall be rectangular concrete boxes with non-hinged locking cast-iron covers. Valve station number shall be stenciled in two-Related equipment (as may be directed) 1.05 INSPECTIONS: inch-high (2") numerals on cover using epoxy resin base paint of a constraining colo Ball valve boxes shall be round concrete boxes with non-hinged cast iron covers marked either "Ball Valve" or "G.V." with letters cast or tooled in the cover. 3.04 BACKFLOW INSTALLATION: Add the following to Standard Specifications Section 308-5.3 Installation of Valves, Valve Boxes, and Special Equipment: Install backflow assemblies at locations approved in the field by the Park Projects Inspector and at heights required A. Inspections will be required for: 1. Pressure test of irrigation main line. Plastic Valve Boxes: a) General: Valve boxes and covers shall be fabricated from a durable plastic materia Coverage Test. Final inspection/ start of maintenance. resistant to weather, sunlight and chemical reactions. The covers shall be secured with a hidden latch mechanism or bolts. The cover and box shall be capable of sustaining a load of 1,500 pounds. Valve box extensions shall be by the same manufacturer as the valve box. The box covers shall be factory embossed for the Final acceptance. Inspection Requests: Contractor shall contact the Park Projects Inspector in advance for requesting all inspections as follows: Pressure supply line installation and testing- 36 hours (1-1/2 working days) System layout- 36 hours (1-1/2 working days) 3.05 VALVE AND VALVE BOX INSTALLATION: Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve Amend Standard Specification Section 308-5.3 Installation of Valves, Valve Amend Standard Specification Section 308-5.3 Installation of Valves, Valve Amend Standard Specification Section 308-5.3 Installation of Valves, Valve Amend Standard Specification Section 308-5.3 Installation Section 308-5. esignated use and stenciled by the installer with 2" high letters in a contrasting Boxes, and Special Equipment to read: Valves shall be the same size as the as noted below. Boxes and covers: Shall be a minimum of 12" wide x 18" long, with depths as necessary to protect the valve and provide the clear dimensions as detailed and/or specified. The covers shall be embossed with words or initials to identify the use for the box (e.g. "Flush Valve" or the letters "F.V.", and Air Relief Valve or the letters "A.R.V.") as noted on the Plans. Paulot Digital Royae and Covers: Shall be minimum 12" diameter, round boxes 3. Coverage tests- 36 nours (1-1/2 working days) 4. Final Inspection- 48 hours (two working days) Evidence of inspection by Others: When inspections have been conducted by other than the Park Projects Inspector, Contractor shall show evidence of when and by whom these Coverage tests- 36 hours (1-1/2 working days connection to the pressure main line. Amend Standard Specifications Section 308-5.3 Installation of Valves, Valve inspections were made. Requirements for Inspection: No inspection is to commence without "record" prints available on the site. In the event Contractor calls for an inspection without up to date "record" prints, without completing previously noted corrections, or without preparing the system for inspection, the inspection may be cancelled and Contractor back charged for the direct costs of all City personnel time and consultant time lost, at the discretion of the Round Plastic Boxes and Covers: Shall be minimum 12" diameter, round boxes with covers embossed with words to identify the use for the box (e.g. "Quick Coupler Valve" or the letters "Q.C.V.") and shall be marked as noted on the Plans areas whenever possible. No valves or valve boxes other than quick coupler valves shall be installed within a designated athletic playing fiel Valve Boxes: General: Valve boxes shall be installed with a minimum of 2" clearance between the box and all pipelines and valve components and/or special equipment within the box. Valve boxes found resting on either the valve, special equipment or pipelines shall be cause for rejection of the installation. 2.04 BACKFLOW PREVENTION DEVICE: Add the following to Standard Specifications Section 212-2.3 Backflow Preventer Assembly: The backflow prevention unit shall be a reduced pressure type vacuum breaker of the size, manufacturer, and model number as indicated on the Plans. If not indicated, the device shall be the same size as the water service Parks Department Representative. <u>Closing in Uninspected Work</u>: Do not allow or cause any of the Work of this section to be Coverage test: When the irrigation system is completed, Contractor shall perform a coverage test in the presence of the Park Projects Inspector to determine if the water coverage for planting areas is complete and adequate. This test must be accepted by the Parks Projects Inspector before planting can commence. 2.05 IRRIGATION HEADS: All irrigation heads shall be as shown on the Plans and shall conform with section 212-2.4 Sprinkler Equipment of the Standard Specifications. Hydrostatic test: 1. Prior to the installation of any valves, all pressure lines shall be tested under a hydrostatic pressure of 150 psi for a period of not less than two hours, with all ends of lines capped and the line fully charged with water after all air has been expelled from 2.06 ELECTRICAL MATERIALS: a round concrete valve box. Conduit: Amend Standard Specifications Section 212-3.2.1 Conduit to read: All conduit below grade shall be schedule 40 PVC of sufficient size to carry all proposed wiring. Conduit above grade shall be galvanized steel per the Standard Specifications. Low Voltage (24 volt) wiring shall be provided with a separate conduit/sleeve from both voltage wiring (110/10) volt and bidsolved and the intraction mainline sleeve. 2. All hydrostatic tests shall be made in the presence of the Park Projects inspector or Inspector's designated representative. No pressure line shall be backfilled until it has been inspected, tested, approved in writing, and the mainline and valve locations have Contractor shall furnish the necessary force pump and all other test equipment, and (110/120 volt and higher) and the irrigation mainline sleeve. Electrical Service: Materials for electrical service shall comply with the Standard Specifications, governing utility agency standards, and requirements of all applicable codes. Wire: Add the following to Standard Specifications Section 212-3.2.2 Conductors: "All low voltage conductors shall be 14 gauge for control and 12 gauge for common wires. All low voltage common wire shall be white with a colored stripe. Stripe color shall be different for each controller installed. All low voltage control wire shall be of one color other than 1.06 TURNOVER ITEMS: 3.06 IRRIGATION HEAD INSTALLATION: Amend Standard Specifications Section 308-5.4.1 Sprinkler Head Installation and Adjustment, General to read: Irrigation heads shall be installed as designated on the Plans and per the Park and Recreation Department's A. <u>Controller charts</u>: 1. "Record" prints must be approved by the Parks Department Representative before or each controller installed. All low voltage control wire shall be of one color other than standard details. Upon coverage testing of the system if 100% coverage is not afforded by the system as designed, additional heads shall be added as necessary to achieve 100% coverage. Up to 5% of the total number of heads in the system are to be added at no additional cost to City white or green. A different color control wire shall be used for each controller installed." <u>Communication Cables</u>: All communication from Phone Link Concentrator to satellite, and satellite shall be through a twisted wire pair, shielded, direct burial cable (armored charts are prepared. 2. Provide one controller chart for each automatic controller. The chart shall show the entire area covered by the controller, preferably in a single sheet. The chart shall be a reduced copy of the approved "record" print. Reduce the print to a size that is the maximum dimensions that will fit within the controller door without folding. If the cable) as manufactured by Palge Electrical Corporation; P.O. Box 368 Union, New Jersey 07083, telephone: 201-687-7810. Model Number P7162D-A1, armored. Any splices shall 3.07 CONTROLLER INSTALLATION: Add the following to Standard Specifications ontroller sequence is illegal at this reduction scale, the chart may be provided as a be of a Paige Electrical Corporation approved method in a valve box for access. Valve box to be marked "communication cable." "multi-sheet" chart to provide adequate legibility. 3. Each control station on the chart shall be marked with a different color to show its area 2.07 CONTROLLER UNIT: Add the following to Standard Specifications Section 212-3.3 Controller Installation: The controller location, as shown on the Plans, is diagrammatic. The final location of the controller(s) shall be as approved by the Park Projects Inspector or coverage. 4. When completed and approved, the chart shall be hermetically sealed between two installed in the controller enclosure using Velcro fasteners, and three different color grease pencils (red, black and blue) shall be provided in the enclosure for maintenance Conventional Type: Controller shall be wall mounted type, as indicated on the Plans, with shall remove the existing controller(s) and replace with the replacement unit as specified a heavy duty watertight case and locking hinged cover. 1. Central/Satellite Computer Type: The controller system shall consist of the following: a) Satellite Assembly: Toro model #132-76-08, quantities as shown on the Plans; and ontractor shall install all conduit runs, 120V wire and cable, and 24V control wire, phor otations on the char ne, and controller communication cables as necessary for a complete and operational Controller charts shall be completed prior to the final acceptance inspection. Operation and Maintenance Manuals: Within a minimum of 14 calendar days prior to the acceptance of construction, prepare and deliver to the Parks Department Representative all Controller Enckosure: 1. Conventional Type: The controller shall be wall mounted within a LeMeur vandal resistant enclosure, unless noted otherwise on Plans. Controller enclosure shall be resistant enclosure. Supplemental Satellite Equipment: Toro Sensor Input Board #995-63 and Toro Rain Gauge NW-8000-RG and Toro TempET sensor #995-61, one (1) each to be added to one (1) satellite assembly, with the Rain Gauge and TempET sensors to be required descriptive materials, properly prepared in two individually bound copies of the operation and maintenance manual. The manual shall describe the material installed and remotely mounted on the roof, in a location approved by the Parks Department Representative, and wired to the designated satellite containing the Sensor Inpu located in shrub areas and/or adjacent to other hardscape items. Enclosure shall be painted with two coats of paint, color as approved; submit samples. A 4" thick concr shall be in sufficient detail to permit operating personnel to identify, operate, and maintain all equipment. Spare parts lists and related manufacturer's information shall be included for each equipment item installed. Each complete, bound manual shall include the following Phone Link Concentrator: complete with new ground rod and telephone connection. ystem Components shall conform with the following: Satellite Assembly: shall consist of a Toro Network 8000 satellite with features as Index sheet stating Contractor's address and telephone number, including names and enclosure with a heavy duty waterlight case and locking hinged cover. Coordination of Controller Location with Various Service Connections: Contractor shall coordinate the telephone service and the electrical service with the approved controller addresses and telephone numbers of local manufacturer's representatives Complete operating and maintenance instructions on all major equipment. Materials to be turnished: The following items shall be supplied as part of this Contract and shall be turned over to the Park Projects Inspector at the conclusion of the Project at the Satellite controller shall be the Toro Network 8000 32 station satellite. All satellite controllers shall have the pump start, master valve relay, and remote switch ocation. Contractor shall verify the locations of 120V power, communications Vandal resistant enclosure with stainless steel pre-drilled removable backboard, 4% additional irrigation heads of each type and spray pattern shown. Appropriate satellite controller unit. Two (2) special tool/wrenches for disassembly and adjustment of each type irrigation equipment/heads installed that require such special tools/wrenches. Two keys for each type of automatic controller. Two quick couplers "quills" with a 3/4" bronze hose bib, bent nose type with hand wheel Appropriate satellite controlled in the Apre-whited terminal strip, grounding rod and ten gauge copper ground wire, and EFI line voltage stabilizer model #OEM 120/20A. The terminal strip sha. grounding rods and ground wires for each controller. Ground rods shall be installed a minimum of eight feet from their respective controller housing and the ground wire run bac clearly indicate the proper points of connection for all wiring (e.g. station valves to the controller mmon, master valve, pump-start, communications, etc. and two quick coupler locking lid keys. Limited 5 year warranty, Contractor shall provide the following services: Communication cable test Communication cable hook-up Remove and turn over backflow device valve handles. Documentation of Water Department's inspection and acceptance of backflow device. Addressing of the system Sensing calibration and hook-up c. Instruction in system operation to the user group The satellite assembly shall be provided with a radio remote access assembly 1.07 GUARANTEE: (as manufactured by Remote Control Technology or City approved equal) receptacle pre-wired into the controller providing radio remote control of the A. General: The entire irrigation system, including all Work done under this Contract, shall be quaranteed against all defects and fault of material and workmanship for a period of one (1) year following Final Acceptance of the Work as documented by the Notice of Completion filed with the Riverside County's Recorder Office. All materials used shall carry a manufacturer's guarantee of one (1) year. Should any problem with the irrigation system be discovered with the transport of the best of the contract of Supplemental satellite equipment and sensors, 3.08 WIRING: Control systems shall include provisions for the installation of a monitor/control unit. discovered within the guarantee period, it shall be corrected by Contractor at no additional expense to City within fourteen (14) calendar days of receipt of written notice from City. When the nature of the repairs as determined by the Director constitute an emergency (e.g. The monitor/control unit shall have sufficient solid state control relays to control all existing ballfield lights. Sufficient space shall be provided in the monitor/control unit A. Wiring: Add the following to Standard Specifications Section 308-5.5 Automatic Control All splice connections shall occur in a valve box. All wire runs between the valve and o add on all future contractors planned for the site. broken pressure line) City may proceed to make repairs at Contractor's expense. Any and all damages to existing improvement resulting either from faulty materials or workmanship, or from the necessary repairs to correct same, shall be repaired to the satisfaction of the Parks the controller shall be a continuous run with no splices unless noted otherwise on th PART 3 - EXECUTION ntative by Contractor, all at no additional cost to City. B. <u>Form of Guarantee</u>: Guarantee shall be submitted on Contractors own letterhead as follows 3.01 GENERAL: All Work shall conform with Section 308- Landscape and Irrigation Installation of the Standard Specification except as modified herein. No Work of this Section other than sleeving under pavement shall commence prior to the completion and acceptance of 3.09 FINISHING AND TESTING: Amend Standard Specifications Section 308-5.6.2 Pipeline Pressure Test to read: Pressure test the mains- minimum 2 hours at 150 PSI. Add the following to Standard Specifications Section 308-5.6.2 Pipeline Pressure Test: Centerload all plastic pipe prior to pressure testing. The entire system shall be operating properly We hereby guarantee the irrigation system we have furnished and installed against defects in materials Add the following to Standard Specifications Section 308-5.1 General: and workmanship, ordinary wear and tear and unusual abuse, or neglect excepted, and that the Wor has been completed in accordance with the Plans and Specifications. We agree to repair or replace Irrigation System Design & Water Supply: 1. The irrigation system design is based upon an available water pressure of _____p.s.i. at a flow rate of _____g.p.m. Individual stations are designed to this minimum p.s.i. The system is also designed to withstand maximum pressure of ____p.s.i. Contractor shall verify the size of the existing water supply/meter and the existing operating water any or all of the Work, together with any other adjacent Work which may be displaced by doing so, that may prove to be defective in its workmanship or materials within a period of none (1) year after the dat the Notice of Completion for the above named Project is filled with the County Recorder by the City of 3.10 COMPLETION CLEANING: Add the following to Standard Specifications Section 308 Landscape and Irrigation Installation: Upon completion of the Work, Contractor shall smooth all ground surfaces, remove excess materials, rubbish, debris, etc., sweep adjacent Riverside, California, at no additional cost to City. We shall make such repairs or replacements with 4 calendar days following written notification by City. When the immediate repair or replacement of the pressure at the water supply location shown on the Plans prior to starting construction. Contractor shall notify the Park Projects Inspector in writing of any discrepancies noted. streets, curbs, gutters, walkways and trails, and remove construction equipment from the premises Work is necessary to ensure the public safety and welfare, which would be endangered by continued usage of the facility, such circumstance will be deemed an operational emergency. In the event of such emergency, after City contacts our firm and after authorizing 24 hours to initiate repairs, if we fail to initiate and diligently complete such repairs in a timely manner, the Director may direct City forces to perform such functions as the Director may deem necessary to correct the Work and immediately place the facility back in operational condition. If such procedure is implemented, we shall bear all expenses incurred by City. In all cases, the judgement of the Director shall be final in determining whether an operational emergency exists. ailure to provide such written notification may cause Contractor to provide to END OF SECTION modifications to the irrigation system as necessary to provide for a fully operational system providing 100% coverage at the operating pressure available, all at no ditional cost to City. **PLANTING** Connection to, or the installation of, the water supply shall be at the location shown on the Plans. Minor changes caused by actual site conditions shall be made at no operational emergency exists. In the event of our failure to make such repairs or replacements within the time specified after receipt of written notice from City (other than an operational emergency), we the Plans. Minor changes caused by actual site conditions shall be made at no additional cost to City. Electrical Service: Contractor shall provide electrical service as necessary and make 120 V connection to the irrigation controller and the Phone Link Concentrator. Code Requirements: Prior to all Work of this section, Contractor shall carefully inspect the installed Work of all other trades and verify that all such Work is complete to the point where this installation may properly commence. Verify that the irrigation system may be installed in strict accordance with all pertinent codes and regulations, the as directed by the Park Projects Inspector and at no additional cost to City. PART 1 - GENERAL authorize City to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand 1.01 RELATED DOCUMENTS: A. Standard Specifications: The provisions of the Standard Specifications shall apply except ADDRESS: PHONE: B. Reference Standards: American Association of Nurserymen Standards In the event any equipment or methods indicated on the Plans or in the Specifications is in Operational Instruction: After the system has been completed, Contractor shall instruct the Parks department Representative in the operation and maintenance of the system and shall In the event any equipment of methods indicated on the rights of the processors in the conflict with local codes, immediately notify the Park Projects Inspector prior to installing the Work. If this notification is not provided, Contractor shall assume full responsibility for the 1.02 SCOPE: The work of this Section shall consist of furnishing all labor, materials, equipment appliances and services necessary for the execution and completion of all Planting Work as shown on the Plans and as described in the Specifications including, but not necessarily limited turnish a complete set of operating instructions. Trench Settlement: Any settling of trenches which may occur during the one-year period following acceptance shall be repaired to City's satisfaction by Contractor without any additional expense to City. Repairs shall include the complete restoration of all planting paving or other improvements of any kind which are damaged as a result of the Work. Grades: Before starting Work of this section, Contractor shall obtain the written acceptance of the Park Projects Inspector of the fine grades, and written authorization for the Work of this Section to proceed. Contractor is to keep with the specified material depths with Finish grading (as distinguished from fine grading per Section 02210 grading); Planting trees; respect to finish grade. Failure to obtain such written acceptance may subject Contracto respect to tinish grade. Failure to obtain such written acceptance may subject Contractor to adjusting the grades or depth of lines in order to achieve acceptable depths of cover, all as directed by the Park Projects inspector and at no additional cost to City. Coordination with Work of Other Trades: Make all necessary measurements in the field to ensure precise fit of items in accordance with the original design. Contractor shall coordinate the installation of all irrigation materials with all other Work. Special attention shall be given to coordination of piping locations versus tree and shrub locations and sleeve locations versus assument installation to avoid conflicts. PART 2 - MATERIALS Guying and staking trees; Planting shrubs and groundcover; Hydroseeding turf; Soil erosion control; 2.01 GENERAL: All materials shall conform with Section 212- Irrigation Systems Materials of the Standard Specification except as modified herein. 2.02 PIPE AND FITTINGS: Coordination with Work of other Sections; F. Maintain Record Prints: Contractor shall maintain "record" prints on site at all times. Upon completion of the Work, transfer all "record" information on changes and dimensions to reproducible sepia prints. The changes and dimensions shall be recorded in a legible and workmanlike manner, to the satisfaction of the Park Projects Inspector. Replacement, Repairs, Guarantees and Warranty Work. Pressure supply lines 2 inches in diameter and up to 8 inches in diameter shall be either Class 315 solvent weld PVC or Class 200 rubber gasket type PVC. Solvent weld and ring type pipe shall not be used together on the same pressure supply line. Pressure supply lines 1-1/2 inches in diameter and smaller shall be minimum schedule 1.03 RELATED WORK: Clear and Grub and Selective Demolition 3.02 TRENCHING AND BACKFILLING: 3. Non-pressure lines shall be minimum Class 200 PVC. Frenching: 1. Add the following to Standard Specifications Section 308-2.2 Trench Excavation and Section 30 Backfill: Dig trenches and support pipe continuously on bottom of ditch. Where lines occur paved areas, depth dimensions shall be considered below subgrade.

continuously pressurized) to read: Water lines continuously pressurized- minimum 18 inches, maximum 24 inches. (These measurements are to be from subgrade elevation for piping under pavement).

Amend Standard Specifications Section 308-2.2, Subparagraph 3 Lateral Sprinkler Where it is necessary to excavate adjacent to existing trees, Contractor shall avoid injury to trees and tree roots. Excavation in areas where 2-inch and larger roots occur shall be done by hand. All roots 2 inches and larger in diameter shall be tunneled under and shall be heavily wrapped with wet burlap to prevent scarring or drying. Where trenchi machine is run close to trees having roots smaller than 2 inches in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making a clean cut through the roots. Roots 1 inch and larger in diameter shall be painted with two coats of tree seal of roots. Hoots 1 inch and larger in diameter shall be planted with two coats of tree seal of approved equal. Trenches adjacent to trees shall be closed within 24 hours.

Permanent Resurfacing: Add the following to Standard Specifications Section 308-5.1 General to read: All surface improvements damaged or removed as a result of Contractor's operations shall be reconstructed by Contractor to the same dimensions except for pavement thickness, and with the same type materials used in the original Work. Trench resurfacing shall be 1 inch greater in thickness than existing pavement. Concrete pavement shall be removed and replaced in "full panels" with no horizontal dimensions less than live (5) feet. Contractor shall review the planned limits and lines of concrete removal and replacement with the Park Projects Inspector prior to sawcutting for Removal Work. Amend Standard Specifications Section 308-2.2 French Excavation and Backfill to read: "Backfill shall be uniformly tamped in 4-inch layers under and around the pipe for the full width of the trench and the full length of the pipe. Materials shall be sufficiently damp to permit thorough compaction, free of voids. Backfill shall be compacted to dry density equal to adjacent undisturbed soil and shall conform to adjacent grades." and Backfill:

a) Flooding in lieu of tamping is not allowed without specific prior written approval of Pipeline Installation, General:

Piping under existing pavement may be installed by jacking, boring, or hydraulic driving.

However, no hydraulic driving is permitted under asphaltic concrete pavement.

Cutting or breaking of existing pavement is not permitted except as approved by Park Projects inspector. When approved, all necessary repairs and replacements will be Carefully inspect all pipe and fittings before installation, removing all dirt, scale and burrs and reaming; install pipe with all markings up for visual inspection and verification.

Contractor shall install concrete thrust blocking per the manufacturer's recommendations at all changes of direction and terminal points of pressure pipe.

Parallel lines shall not be installed directly over one another. Provide a minimum of 12" horizontal separation for all parallel lines.

6. For plastic-to-metal connections, work the metal connections first. Use a non-hardening pipe dope on all threaded plastic-to-metal connections, except where noted otherwise.

7. All piping under pavement shall be sleeved using schedule 40 PVC sleeves. Each line shall be separately sleeved.

Do not install multiple assemblies ("manifold") on plastic lines. Provide each equipment assembly (e.g. RCV, quick coupler, ball valve, head, backflow device) with its own Exercise care in handling, loading, unloading and storing plastic pipe and fittings, store plastic pipe and fittings under cover until ready to install; transport plastic pipe on a vehicle with a bed long enough to allow pipe to lay flat, avoid undue bending and any 360° applicators shall be used to apply primer and solvent on pipe sizes 2-1/2 inches pipeline in which valves are installed unless otherwise specified on the Plans. Valves shall be installed a minimum of three feet in horizontal distance apart, each with its own Boxes, and Special Equipment to read: Install quick couplers and valve boxes per the Park and Recreation Department's standard details.

Add the following to Standard Specifications Section 308-5.3 Installation of Valves, Valve Boxes, and Special Equipment to read: Valves shall be installed in shrub Uses:
a) Concrete Valve Boxes:
i) Rectangular: Unless noted otherwise on the Plans, each remote control valve, all wire splices and each master control valve shall be installed within a rectangular concrete valve box.

) Round: Unless noted otherwise on the Plans, each quick coupler valve (except where located within the infield of a baseball/softball field shall be installed within b) Plastic Valve Boxes:
i) Rectangular: Unless noted otherwise on the Plans, each drip irrigation flush valve, and each air relief valve shall be installed within a rectangular plastic valve. Round: Unless noted otherwise on the Plans, each quick coupler valve located within the infield of a baseball/softball field shall be installed within a round plastic slab for maintenance access shall be provided, size approximately 15 sq. ft., line, grade and dimensions as directed by the Park Projects Inspector. Central/Satellite Computer Type: Controller(s) shall be pedestal mount type, as indicated on the Plans, the entire unit being installed within a stainless steel Strong Box nocation. Communication state verify the locations of 1209 power, communication and sensor cable lead-ins and telephone service prior to installing controller(s) and shall coordinate fina assembly mounting locations with the needed utilities. Contractor shall furnish and install to the controller.

<u>Controller Connections</u>: Contractor shall inspect, test, and certify all low voltage control wire, <u>communication cables</u>, splices and ground rods installations as applicable. Any repairs as necessary to provide properly operating wiring are to be made by Contractor at no additional cost to City. After repairs are satisfactorily completed, Contractor shall connect the ground wires to the ground rods and the controller(s). *Contractor shall connect the* communication and phone cables to the appropriate controller assemblies. Contractor shall calibrate and address the phone link concentrator and satellite and shall connect the phone moderns to the telephone service at both the satellite and Phone Link Concentrator assemblies.

<u>Controller Programming</u>: Following establishment of the turf, the irrigation system shall be programmed to operate during the periods of minimal use of the Project area (i.e., 11:00 p.m. through 6:00 a.m.). All low voltage wiring splices shall be made-up as soldered connections, wrapped with a minimum of two (2) layers of electrical tape and sealed with Scotch-coat. Scotch-lok, Uni-pack, Penn-tite, or other similar type connectors are <u>not</u> acceptable.

PART 2 - MATERIALS Derived from urea formaldehyde 7.0% water soluble nitrogen
13.0% water insoluble nitrogen Available Phosphoric Acid (P2Os). . . Derived from urea formaldehyde Soluble Potash (K2O). . . Combined Calcium (Ca). . Combined Sulfur (S) Derived from ferrous and potassium sulfat Iron (expressed as elemental Fe). 10% 2.04 HYDROSEEDING MATERIALS: Minimum 78 warp ends per width of roll. sociation of Nurserymen. Street Tree Inspector, bare root stock shall conform to the American Associal Nurseryman standards. Minimum callper shall be two (2) inch diameter and minimum height shall be twelve (12) feet.

C. Bare Root Stock: Shall conform to the American Nurseryman's Association standards.

Minimum caliper shall be two (2) inch diameter and minimum height shall be twelve (12) D. <u>Cuttings</u>: Modify Standard Specifications Section 212-1.4.6 Cuttings: to read: All cuttings sed on the project shall be fully rooted cuttings unless otherwise approved in writing by 2.07 MULCH: Shall conform with Standard Specifications Section 212-1.2.5 (a) Type I Mulch

1.04 SOILS TEST: Contractor shall notify the Park Projects Inspector upon completion of *fine* grading and prior to commencement of soil preparation work. The Park Projects Inspector will obtain agronomic soils tests for all planting areas after completion of *fine* grading and prior to start of soil preparation work. Tests will be performed by an approved agronomic soils testing laboratory and will include a fertility and suitability analysis with written recommendations for soil .2.08 TURF PLANTINGS: preparation, planting backfill mix, auger hole requirements, and post plant fertilization program The soils report recommendations will take precedence over the minimum amendment and fertilizer application rates specified minimums. Contractor shall allow a minimum two week period for the soils testing work commencing upon the Park Projects inspector's acceptance of grade/ the fine grading work per Section 02210 Grading. 1.05 GUARANTEE: The guarantee requirements of the Special Provisions are supplemented as follows as such requirements pertain to the tree planting portion of the Work. All trees installed under the Contract shall be guaranteed against any and all poor, inadequate or inferior materials and/or workmanship for a period of one (1) year following the date the Project Notice of Completion is filed with the County Recorder. During the guarantee period, any trees four to be dead, missing, or in poor condition shall be replaced by Contractor within ten (10) days of written notification. Parks Project Inspector shall be the sole judge as to the condition of the trees. Replacement shall be made in accordance with City standards. Material and labor involved in replacing trees shall be provided by Contractor at no additional cost to City. 1.06 INSPECTIONS: Inspections will be required. Contractor shall contact the Park Projects Inspector as least 48 hours (2 working days) in advance of an anticipated inspection inspection will be required at each of the steps listed below: A. Fine Grade Prior to Commencement of Soil Preparation: Upon completion of fine grading and prior to commencement of soil preparation, for acceptance of fine grading work/grade. and taking of soils samples.

Einish Grade: Inspection of completed finish grading work following soil preparation work.

Plant Material: Inspection of plant materials upon delivery to the job site, but prior to <u>Plant Locations</u>: When container plants and/or bare root stock are spotted for planting, but before planting holes are excavated.

Completed planting: When planting and all other indicated or specified work has been completed.

Chemical Applications: During application of pre-emergent chemical.

Start of Plant Establishment: At the start of the Plant Establishment Period.

End of Plant Establishment: Prior to Final Acceptance of the Project for maintenance by City, the project will be inspected for end of Plant Establishment Period. Acceptance for maintenance will be confirmed in writing by the Parks Department Representative. Contractor shall remain responsible for maintenance until receipt of this written confirmation of City's acceptance of the Project for maintenance. 1.07 SUBMITTALS: The following written certificates are required to be submitted to the Park Total Quantity of commercial fertilizers, by type
Total Quantity of soil amendments and conditioners, by type
Total Quantity of seed, by type
Total Quantity of mulch
Total Quantity of iron sulphate 1.08 PLANT ESTABLISHMENT PERIOD: The length of the Plant Establishment Period shall be as specified in Section 6-7.4 Plant Establishment Period of the Special Provisions; regarding length of plant establishment and criteria to start, see also Subsections 3.12 Maintenance and Plant Establishment and 3.13 Start of Plant Establishment Period. 2.01 GENERAL: All materials shall conform with Section 212- Landscape and Irrigation f the Standard Specification except as modified herei 2.02 FERTILIZER, SOIL AMENDMENTS AND CONDITIONERS: Add the A. <u>Plating Tablets</u>: Tightly compressed long-lasting, slow-release fertilizer tablets weighing 21 grams, with a potential acidity of not more than 5 percent by weight and having an analysis of 20-10-5 derived from the sources listed in the following guaranteed analysis: GUARANTEED ANALYSIS B. Commercial fertilizer: Shall bear the manufacturer's guaranteed statement of analysis and shall meet the following minimum requirements: 16% nitrogen, 6% phosphoric acid, and Organic Soil Amendment: Shall be type 1 organic soil amendment, wood based product, nitrogen stabilized, and free of foreign matter.

 Soil Conditioners: Add to Standard Specifications, new Section as follows: 212-1.2.6 Inorganic Conditioners. Inorganic conditioners shall be agricultural grade gypsum, soil suffer and iron sulfate. Iron sulfate shall be ferric sulphate or ferrous sulphate in pelleted or granular form containing not less than 18.5% iron, expressed as metallic iron, and shall be registered as an agricultural mineral with the State Department of Food and Agriculture in compilance with Chapter 5 "Fertilizing Materials", of Division 7 of the Food and Agriculture Code of California, commencing 2.03 HEADERS, STAKES AND TIES: Add the following to Standard Specifications Section 212-1.5 Headers, Stakes and Ties: A. <u>Headers</u>: Standard Specifications Section 212-1.5.2 Headers and Stakes replace with the following to read: "Headers shall be Concrete Headers/Mow Curbing- Concrete shall be 5 sack mix with a maximum slump test of four inches (4"). Provide sufficient concrete forming and stakes (maximum 3' o.c.) to provide continuous line without waving." <u>Tree Stakes</u>: Shall be straight-grained lodgepole pine, or City approved equal. Stakes shall be free from knots, checks, split, or distigurements.

<u>Tree Ties</u>: Shall be made from tire casing, 22" long by 3/4" wide, fastened to tree stake A. <u>Binding Agent</u>: Shall be a dry powder organic concentrate, Ecology Controls "M-Binder" as available from Robinson Fertilizer Company, Anaheim, CA 714/632-9715 or City as available from Robinson Fertilizer Company, Anahelini, CA 714/032-9/15 of City approved equal.

Eertilizers:

1. Controlled Release Fertilizer (CRF): Shall have a minimum analysis of 16-7-12 (+Iron), 9-12 month time release formulation, using resin coated prills, as manufactured by Scotts Chemical Co., (Local Manufacturer's Representative: Jack Wackerman, 761/757-2150) 1-800-492-8255, or City approved equal, and as available through Western Farm, Santa Ana, CA (714) 549-2871.
Single Super Phosphate: Shall have an analysis of 0-18-0, as manufactured by ???, or C. <u>Fiber Mulch</u>: Shall be produced from cellulose such as wood pulp or similar organic material and shall be of such character that it will disperse into a uniform slurry when mixed with water. The fiber shall be of such character that when used in the applied mixture, an math water. The fiber strain be of sour children, will result on the surface of the ground.

Materials which inhibit germination or growth shall not be present in the mixture.

Seed: Turf seed mix as specified.

Water: All water used for hydroseeding shall be potable domestic water. See General Provisions Section 7-8.5 Temporary Light, Power, and Water regarding availability of water and temporary construction meter and charges for water drawn from City fire 2.05 JUTE NETTING: Jute netting shall be new and shall be of uniform, plain-weave, flameretardant mesh. The mesh shall be dyed green and shall be made from unbleached single jute yarn. The yarn shall be of loosely twisted construction and shall not vary in thickness by more than one-half its normal diameter. Jute netting shall be furnished in rolled strips and shall Width- 48 inches, with a tolerance of one inch wider or marrower. Minimum 41 weft ends per yard of length.

Weight shall average 1.22 pounds per linear yard, with a tolerance of 5 percent heavier or 2.06 PLANTS: Add the following to Standard Specifications Section 212-1.4 Plants: A. General: Add the following to sub-section 212-1.4.1 General: All plants shall be true to name, with at least one of each bundle or lot tagged with the name and size in accordance with the American Association of Nurseryman Standards. In all cases, botanical names shall take precedence over common names. All plants and planting materials shall meet or exceed the specifications of Federal, State, and County Laws requiring inspection for plant disease Quality and Size:

1. Quality: All plant material shall comply with the definition for number one nursery stock per the current edition of "Horticultural Standards" as adopted by the America ASSOCIATION OF THE STREET THE SIZE: Add the following to Standard Specifications Sections 212-1.4.2 Trees and 212.1.4.3 Shrubs: 212.1.4.3 Shrubs:

 a) All container plants supplied by Contractor shall be of the specified standard height and diameter set by the American Standard for Nursery Stock. The height of the trees shall be measured from the root crown to the last division of the terminal leader and the diameter shall be measured six (6) inches above the crown roots.
b) All palm trees shall be of a minimum overall height of 8 to 12 feet as measured from the crown of the rootball to the tips of the fronds, or four feet of brown trunk whichever is greater.
c) All container grown plants shall be the size(s) as noted on the approved plans, but in no case less than a minimum 15 gallon container size, with minimum caliper and height in accordance with the American Association of Nurseryman standards or container plants. Where substitution of bare root stock is approved by the

APPR. DATE

DESIGNED BY <u>JRG</u> DRAWN BY <u>JRG</u> CHECKED BY <u>R.W.K.</u>

planted and maintained.

<u>Growing Conditions</u>: Stolons shall be grown from high quality vegetative material in soil treated with appropriate state and federal regulatory agency approved pesticides/ herbicides for control of disease, insects and weeds. Stolons shall be produced in fields periodically inspected by the California Department of Food and Agriculture Nursery Section to insure high quality and freedom from diseases, insects and weeds according to the standards in effect in the current publication of "State of California Department in the current publication of state of California Regulations for Nursery Inspection."

Product Handling: Stolons shall be cut to between one and four inches in length.
Chaff, soil, or other inert materials shall not exceed eight percent (8%) by weight.
When delivered to the job site, stolons shall be in corrogated containers, clean burlap bags or suitable plastic mesh bags. Stolons may be held on site for approximately twenty-four (24) hours if kept shaded, piled no more than two container units deep and kept continually saturated with water until planted.
 Species and Application Rate: Stolons shall be 'Santa Ana' hybrid bermuda grass, applied at 33 bushels per acre (0.75 BU/1,000 SF) PART 3 - EXECUTION 3.01 GENERAL: All Work shall conform with Section 308- Landscape and Irrigation At Contractor's option, subject to the Park Project Inspector's acceptance of the material available and the appropriateness of the planting season, bare root stock may be substituted for the required 15 gallon and 24" box tree species if commercially available as bare root plantings and provided the corresponding minimum caliper and height requirements of Subsection 2.06 Plants, Subparagraph C. Bare Root Stock above are met, all at no charge in contract price. 3.02 WEED CONTROL MEASURES: Upon completion of all fine grading work per Section 02210 Grading, and prior to soil preparation, perform weed control measures as Irrigate all areas designated to be planted for a minimum of 10 minutes per setting, two settings per day for seven days to germinate all weed seed possible.

Apply a contact weed killer and allow sufficient time to obtain complete kill of all weeds germinated. Repeat step one above. Repeat step two above 3.03 SOIL PREPARATION: Add the following to Standard Specifications Section 308-2.3 soil Preparation and Conditioning: A. Work Sequence: All fine grading and mounding per Section 02210 Grading and weed control measures shall be completed prior to soil preparation. Soil Preparation Work shall not commence until the agronomic soils test has been completed. Should 30 calendar days elapse between completion of soil preparation and commencement of planting, all areas about the preparation and commencement. shall be prepared again.

B. Excluded Areas: Planting areas with slopes 3:1 and steeper shall <u>not</u> be soil prepared. In lieu of soil preparation, such slopes will require fertilizer tablets for all plantings as specified below. <u>Soil Preparation</u>: In all planting areas with gradients less than 3:1, areas to be soil prepared shall first be cross ripped to a minimum depth of 6" with tractor tines spaced at maximum depth of 6" with tractor tines spaced at maximum 18" on center. Following crossip operations, a layer soil amendments shall be spread and rototilled into the soil to a minimum depth of 4 nches, or as recommended by the soils report, so that the soil shall be loose, friable, and tree from rocks, sticks, and other objects undesirable to planting.

Amendment Application Rates: The following soil amendments shall be added per 1,000 square feet to all planting areas with gradients less than 3:1 (agronomic soil test recommendations shall take precedence where these minimum amounts are exceeded):

1. 6 cubic yards Type I organic soil amendment. 15 pounds commercial fertilizer.
100 pounds gypsum. 3. 04 FINISH GRADING: Contractor shall finish grade all planting areas, filling as needed or removing surplus dirt, raking to remove all rocks and debris over 1 inch in diameter, and floating to a smooth uniform grade. All areas shall slope to drain. Flow lines shall be established to roads, curbs, drainage swales and inlets, and/or sidewalks as shown on the Plans and as All landscape areas shall be finished graded (as distinguished from fine grading specified in Section 02210 Grading) to "dress out", maintain, and/or re-establish finish grades and flow lines as approved prior to amending the soil. Contractor shall call for inspection upon completion of finish grading work. Contractor shall not proceed with plantling work until finish grades have been inspected and accepted by the Park Project Inspector. 3.05 EROSIDN CONTROL: Add new Section to the Standard Specifications: "308-4.9.6 Jute Netting . All slopes areas exceeding 3:1 shall receive jute netting. Netting shall also be provided during the Plant Establishment Period, when and as directed by the Park Project Inspector, along flow lines and other locations where erosion is evident. Jute netting shall be installed loosely, up and down the slope. The installed netting shall fit the soil surface contour and shall be held in place by 9-inch long, 11-gage (minimum) steel wire staples driven vertically into the soil at approximately 24-inch spacing. Jute nettling strips shall overlap along the sides at least 6 inches. Ends of strips shall be buried into the soil at least 6 inches. ap all ends of rolls a minimum of 24 3.06 INSPECTION OF CONTAINER PLANTS: the root condition of plants furnished in containers will be checked by the Park projects Inspector by removal of the earth by the roots of not less than two plants nor more than 2% of the total number of plants of each species or re from several different sources, the roots of not less than 2 plants of each species or vari from each source may be checked by the Park Project Inspector at the Inspector's option. The selection of plants to be checked will be made by the Park Projects Inspector. Care shall be exercised to avoid rendering plants unsuitable for planting by virtue of this inspection. However, all plants rendered unsultable for planting shall be considered as samples, and replacements shall be provided at no additional cost to City. In case the sample plants are found defective, the entire lot or lots of plants represented by the defective samples will be 3.07 PLANTING BACKFILL: Mixing: All backfill materials shall be bulk mixed, not individually mixed at each plant pit.

Proportions: Backfill for planting pits shall be enriched using the following blend per cubic yard (agronomic soil test recommendations shall be reviewed prior to soil mixing):

1. Container Plants:
60% top soil
3 lbs. gypsum 40% Type I Organic Amendment 2 lbs. Iron sulphate 2 lbs. commercial fertilizer Bare Root Stock: 10% wood shavings 90% top soil fertilizer and soil conditioners as specified for container plants. 3.08 PLANTING: A. Tree and Shrub Planting: Add the following to the Standard Specification Section 308-4.5
Tree and Shrub Planting:

1. Soil surrounding planting pit shall be in a friable condition and moist to a depth of 8".

2. Backfill using specified soil mix to within 8" of finish grade. At this depth, place the plant fertilizer tablets Agriform 20-10-5, 21 grams each, or City approved equal. A minimum of 1 tablet for 1 gallon, 3 tablets for 5 gallons, 5 tablets for 15 gallons, and 8 tablets for a 24" box. Complete backfilling to finish grade.

Trees)other than relocated palms) shall be planted at such a depth that the crown roots bear the same relative position to finish grade as the crown roots did in the soils where the trees were grown. Backfill after planting shall be compacted carefully into place without injuring the roots of the tree or breaking up the ball of earth surrounding the Groundcover and Vine Planting: Add the following to Standard Specifications Section 308-4.7 Groundcover and Vine Planting:

1. On slopes exceeding 3:1 ratio,apply 5 gram Agriform tablets, one per plant in lieu of soil preparation work. Mulch and fertilizer groundcover areas using 1.5 cubic yards of wood shavings and 5 lbs. of the specified commercial fertilizer per 1,000 square feet. Repeat fertilization at 30 day intervals throughout the duration of the contract up to 4 applications, after which All groundcover and bare dirt areas shall be treated with a pre-emergent chemical (subject to approval by the Park Project Inspector prior to application). Chemicals shall be applied by a licensed Pest Control Agent. This treatment shall be applied at the following times during the Contract: a) before planting, b) at beginning of Plant Establishment Period, c) at end of Plant Establishment Period. The Park Projects Inspector, (200) 715-7369, shall be given a minimum of AB bours (2 working days). nspector, (909) 715-3469, shall be given a minimum of 48 hours (2 working day 3.09 TREE STAKING: Amend the Standard Specifications Section 308-4.6.1 Method "A" Tree Staking and 308-4.6.2 Method "B" Tree Staking to read: Stake trees in accordance with the Park and recreation Department's standard detail. 3.10 TURF PLANTING: Add the following to Standard Specifications Section 308-4.8.2, (b) Method "B": Turf planting shall be performed by either hydroseeding, sodding or stokonizing as indicated on the Plans, or, if not noted, as suitable for the species of turf specified and as acceptable to the City: A. <u>Pre-moistening</u>: All areas to be either sodded, stolonized or hydroseeded shall be moistened to a depth of six inches just prior to application Hydroseeding:
 Mixing of hydroseed slurry:
 Mixing shall be performed in a tank, with a built-in continuous agitation and recirculation system of sufficient operating capacity to produce a homogeneous slurry of fiber, M-Binder, seed, fertilizer and water in the following designated unit 1.500 lbs./acre CRF 870 lbs./acre (20#/1000 SF) Single superphosphate 200 lbs./acre (4 1/2#/1000 SF) as specified in Subsection 2.08 Turf Seed above 100 lbs./acre (use on all slopes 5:1 and steeper) Binding Agent: Water: 3.000 gal./acre (maximum) Agricultural Grade Gypsum: CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT DATE BY APPROVED BY Odlaso & R. Me Suath Odlaso Poblic Works Director RINCIPAL ENGINEER PARK DEPARTMENT TRAFFIC DIVISION CHIEF P. W. ENGINEER 6/7/60 TO DATE 6-12-2-000

. Seed: Add the following to Standard Specifications Section 212-1.3 Seed:

Turf Seed Mix Perennial Rye (50% 'Caliente Fine', 50% 'Prelude')

Seeding rate: 218 pounds per acre (5 LBS/ 1,000 SF)

*Note: For applications in May through September, use Hulled Bermuda

Overseeding for Stokonized Turf Plantings: (for use during non-stokonizing months: November thru March). Where stokonizing of turf plantings is specified, and the installation is scheduled during non-stokonizing months, overseed the stokonized turf

Seeding rate: ?? pounds per acre (? LBS/1,000 SF)

Stokens:

1. Definitions: The standard unit of measurement for turt stokens shall be a bushel, defined as 1.24 cubic feet, loose packed and having a minimum "dry" weight of eight pounds net. Stokens are defined as fresh living sections of runners and stems of the turt species specified having nodes (joints) which will produce growth when property

B. Sod: Turf sod shall be of the type noted on the plans. All sod shall be new, fresh, viable

PJ Bluegrass (50% 'Rugby', 50% 'Parade') Un-Hulled Bermuda (Certified Arizona Common)*

od delivered in full pallots ready for installation

anted and maintained.

by weight 60% 10%

b) With agitation system operating at part speed, water shall be added to the tank, good recirculation shall be established. Materials shall be added in such a manner that they are uniformly blended into the mixture in the following sequence (assumes a nominal 1500 gallon tank): When tank is 1/3 filled with water: Add binding agent- 1/2 acre requirement Add 5- 50 pound bales of fiber mulch. Add seed- 1/2 acre requirement.

Agitate mbdure at full speed when the tank is half-filled with water.
Add remainder fiber mulch requirement, 10 bales, before tank is 3/4 full. Add remainder fertilizers, seed and gypsum. Slurry distribution should begin immediately.

Immediately.

 Application: Hydroseed slurry shall be applied under high pressure evenly and result in a uniform coat on all areas to be treated. Care shall be exercised to assure that plants in place are not subject to the direct force of the application. Slurry shall be immediately removed from walks, structures, plants, etc., that are inadvertently sprayed.

immediately removed from walks, structures, plants, etc., that are inadvertently sprayed.

3. Clean-up: The slurry shall not be sprayed on non-designated areas. Any slurry spilled or sprayed into areas other than those designated to receive spray shall be cleaned up at Contractor's expense to the satisfaction of the Park Department Representative. Sodding: All areas to receive sod shall be Finish Graded prior to commencement of sodding. Immediately prior to laying sod, all areas shall be irrigated to moisten the soil as specified above. Rooting agent shall be applied per the written recommendations of the Sod Grower. Contractor shall provide a copy of such recommendations to the Park Projects Inspector prior to installation of the sod. Lay sod in parallel rows with a running bond pattern using uniformly sized strips of sod. Use whole pieces wherever possible. bond pattern using uniformly sized strips of sod. Use whole pieces wherever possible Lay sod smooth, with tight joints, no gaps greater than 1/8" all around to allow for proper spray pattern and smooth pop-up and retract operation. Immediately following completio

sódding operations, irrigate as necessary. Stolonizing:

1. <u>Pre-fertilization</u>: Immediately prior to planting turl, all areas to receive stolons shall be pre-fertilized, evenly broadcasting 10 pounds per thousand square feet of commercial fertilizer. Mechanical Planting: Stolons shall be planted within 24 hours of delivery to the job site. The stolons shall be pressed into the friable, damp soil in such a manner as to bury approximately 75% of the stolons to a depth of 1/2" to 1 1/2". Stolons thus planted shall be rolled immediately thereafter to assure intimate contact between soil particles and the stolons. For planting large areas (in excess of 10,000 SF), mechanical stolon planters such as the Cal-Turf stolon roller shall be employed. In smaller areas, stolons may be scattered on the prepared surface and topdressed with approximately 1/4" of Type I organic material, then rolled. It is not necessary to topdress stolons which have been properly planted with suitable mechanical equipment. organic material, then rolled. It is not necessary to topdress stolons which have been properly planted with suitable mecahnical equipment.
Hydraulic Installation: As an alternative to mechanical planting, at Contractors' option, stolons may be hydraulically planted using 1800 lbs. of wood cellulose fiber, 100 lbs. of M-binder, 300 lbs. of 21-8-8 (+iron) fertilizer and 175 bushels of stolons per acre. Mixing shall be in a tank with built in continuous agitation recirculating system of sufficient capacity to produce homogeneous slurry mixture in designated unit proportions, and a discharge system which will apply the slurry mixture at a continuous and uniform rate. Wood fiber shall contain a green fugitive dye as an application indicator.

Watering: At no time either during or after planting shall stolons be subject to dry conditions. Freshly planted stolons shall immediately be irrigated to a depth of 8" and shall be kept moist at all times thereafter for a period of a minimum ten to twenty days depending upon weather conditions, until new plantings are sufficiently rooted and well

depending upon weather conditions, until new plantings are sufficiently rooted and wel established to withstand less frequent irrigation. Time intervals between beginning of planting operations and commencement of irrigation shall be kept to a minimum and shall not exceed the following:

Ambient Air Temperature Maximum Allowable Time

After the first irrigation, water shall be applied as often and in sufficient amounts as conditions may require, to keep the soil wet above, around and below the stolons. Replanting: At the point that the turf is generally showing signs of establishment, all bare spots shall be replanted within 10 days by Contractor, either with seeds, stolons or sod as designated by City. Contractor shall be responsible for all replanted turf areas for as long 3.11 WATERING: Add the following to Standard Specifications Section 308-4.9.5 Watering:

A. Responsibility: It shall be Contractor's responsibility to maintain a balanced watering program to ensure proper growth until Final Acceptance of the Work.

3. Initial Watering: Immediately after planting, apply water to each plant. Apply water in a moderate stream in the planting hole until the material about the roots is completely saturated from the bottom of the hole to the top of the ground.

3. Ongoing Watering: Apply water in sufficient quantities and as often as seasonal conditions require to keep the planted areas moist at all times, well below the root system of plants.

 Irrigation:
 Contractor shall properly and completely maintain the irrigation system. A balanced water program shall be maintained to ensure proper germination and growth until Final Acceptance of the Work. Plants that cannot be watered sufficiently with the irrigation system shall be watered by means of a hose.

All controllers are to have each station individually adjusted on a weekly basis. System shall be set considering the application rate each area is capable of receiving. The system shall operate on short intervals, with the cycle repeating at a later time to reduce

3.12 MAINTENANCE AND PLANT ESTABLISHMENT: Amend the first sentence to tandard Specifications Section 308-6 Maintenance and Plant Establishment to read: Contractor shall maintain all areas within the Work Limits of this Contract on a continuous

3.13 START OF PLANT ESTABLISHMENT: Add the following to Standard Specifications Criteria for Start of Plant Establishment Period:

1. The Plant Establishment Period shall not start until all elements of the Project that impact

the landscape are completed in accordance with the Contact Documents. Projec

will not be segmented into phases.

Permanent power to remote controllers shall be established.

The Plant Establishment Period for the Project shall not begin until after the first mowing of the newly planted turf areas. For Plant Establishment purposes "First Mowing" is defined as the first mowing after the point in time that a minimum of 85% of the turf area. has attained a minimum height of 2*. Until the above specified percentage of turf area is established and mown, Contractor shall mow as necessary to maintain those portions of turf exceeding 2* at the mowing height of 1 1/2 inches. At no time shall any urf exceed 3" in height. Written acceptance of the Parks Department Representative must be obtained to start the If the project maintenance fails to continuously meet standards required, the Plant

stablishment Period "day count" will be suspended and will not recommence until

3.14 MAINTENANCE TASKS: Add the following to Standard Specifications Section 308-6

 A. General: During the contract period provide all watering, weeding, mowing, fertilizing and cultivation and snraving necessary to least the plants. cultivation and spraying necessary to keep the plants and turf in a healthy growing condition and to keep the planted areas neat, edged, and attractive. All shrubs planted by Contractor shall be pinched and pruned as necessary to encourage new growth and to eliminate ran-sucker growth. Old wilted flowers and dead foliage shall be immediately pinched or cut of <u>Do not</u> prune trees without written approval of the Parks Department Representative. <u>Iron Chkrosis</u>: After planting and during the Plant Establishment Period, in the event that any plantings exhibit iron chkrosis symptoms, apply FE 138 Gelgy or equivalent at manufacturer's Replacement Plantings: During the Plant Establishment Period, should the appearance of any planting installed by Contractor indicate weakness, that plant shall be replaced mmediately with a new, healthy plant. At the end of the Plant Establishment Period, all plant

materials shall be in a healthy, growing condition and spaced as indicated on the plans.

Fertilization: Contractor shall apply commercial fertilizer to all turf areas at a rate of 10 pounds per 1,000 square feet, and all groundcover areas at a rate of 5 pounds per 1,000 square feet, at 30-day intervals, for 3 applications as a minimum, above and beyond the original soil preparation application.

<u>Planting Establishment:</u> All planting areas that do not show a prompt establishment of plant material, and areas where plant material is missing, shall be replanted at 10-day intervals until the plant material is established. For turn sod plantings, sod shall exhibit sufficient root growth conting into the subgrade such that the sod can no longer be removed by hand. If a good knitting into the subgrade such that the soo can no longer be removed by ham. If a good rate of growth has not been demonstrated within 30 days of first planting/hydroseeding, Contractor shall be responsible to determine the appropriate horticultural practices necessary to obtain good growth. Contractor shall obtain agronomic soils testing of all areas not showing good growth and shall provide copies of the test results to the Parks Department Representative to verify the appropriateness of all maintenance work performed. If additional soil admendments are needed, up to a maximum 25% beyond the application

specified, such amendments shall be provided by Contractor at no additional cost to Grading and Drainage: During the Plant Establishment Period all flow lines shall be maintained to allow for free flow of surface water. Displaced material which interferes with drainage shall be removed and placed as directed. Low spots and pockets shall be graded trainings strain be terminoted and placed as understead. Down shots and pockets strain be graded to drain properly. Jute netting shall be installed at flow lines and other locations where erosion is evident, when directed by the Park Projects Inspector.

1. Damage to planting areas shall be repaired immediately and throughout the Plant Establishment Period. Depressions caused by vehicles, bicycles, or foot traffic shall be filled and leveled. Replant damage areas.

2. All paved areas shall be washed and maintained in a neat and clean condition at all times.

3. All publicated drains and links shall be periodically cleared of debts. leaves and trash

All subsurface drains and inlets shall be periodically cleared of debris, leaves and trasl and flushed with clear water to avoid build up of silt and debris. 4. Debris and trash shall be removed from the site daily. <u>Disease and Pest Control</u>: Throughout the Plant Establishment Period, all plants shall be maintained in a disease and pest free condition. A licensed pest control operator shall be retained by Contractor to recommend and apply all pesticides, herbicides, and fungicides.

3.15 END OF PLANT ESTABLISHMENT PERIOD: Add the following to Standard Request for Inspection: When Contractor believes that the Plant Establishment Period is complete and the Project is ready for Final Acceptance, Contractor shall request inspection of the project. The Parks Project Inspector will inspect the Project for Final Acceptance. Deficiencies noted during inspection shall extend the Plant Establishment Period until all are secretary.

ninate gophers, moles, and all other rodents, and repair damage

B. Established Plantings: All planting areas shall show a good rate of growth and shall be well established "filled in" plantings free of volds. Bare areas will be unacceptable. Contractor shall provide sod or plantings from flats as necessary to fill in all bare areas. Such sod or plantings shall be planted a minimum of 10 days prior to the end of the Plant Establishment Period and shall have roots "knit-in" to the native soil.

<u>Written Acceptance</u>: Final acceptance and assumption of maintenance responsibilities by City shall occur only upon the Parks Department Representative's written acceptance of the Project for maintenance by City. 3.14 CLEAN UP: Upon completion of the Work, Contractor shall smooth all ground surfaces;

remove excess materials, rubbish, debris, etc.; sweep adjacent streets, curbs, gutters; wash down all walkways, and trails; and remove construction equipment from the premises. **END OF SECTION**



IRRIGATION & PLANTING SPECS ALESSANDRO BLVD. & TRAUTWEIN RD. **MEDIAN ISLANDS**

HORIZ. SCALE: N.T.S.

ACCOUNT NO. R-3056-L2

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Richard Krumwiede CA Lic. #2834 AZ Lic. # 29115 NV Lic. # 446

INDEXED 7-17-2000 4

VERT. SCALE: N.T.S.